

Nation's Business

A USEFUL LOOK AHEAD

JULY 1956

9

*ways to
measure
your
managers*

PAGE 28

Business in politics: how far you can go PAGE 25

How to reorganize without crisis PAGE 74

Forecast for second half—see Letter PAGE 7

Population mix will change your business PAGE 38

Waiting

for your business to improve?



Do something about it!

Experienced management has proved, time and time again, that things don't just happen. Improvement is caused by *corrective action*! The many ailments from which a business can suffer...such as rising costs, complicated personnel problems, contracting markets, outmoded methods...all lead to one end result: decreasing net profits or actual losses. They must be stopped by corrective action.

Top management in more than 40,000 businesses during the past 32 years has made profitable use of the service offered by the George S. May Company. This unique service does not stop with reports or counsel; corrective recommendations are put into effect when requested. Benefits are im-

mediate and are reflected in black ink on the profit and loss statement.

If you have been vaguely aware of the need for changes and improvements in the structure and operation of your business, you will do well to call in the George S. May Company. Put the world's largest accumulation of business knowledge and experience to work on your problems. Call any of our offices today. There is no obligation.

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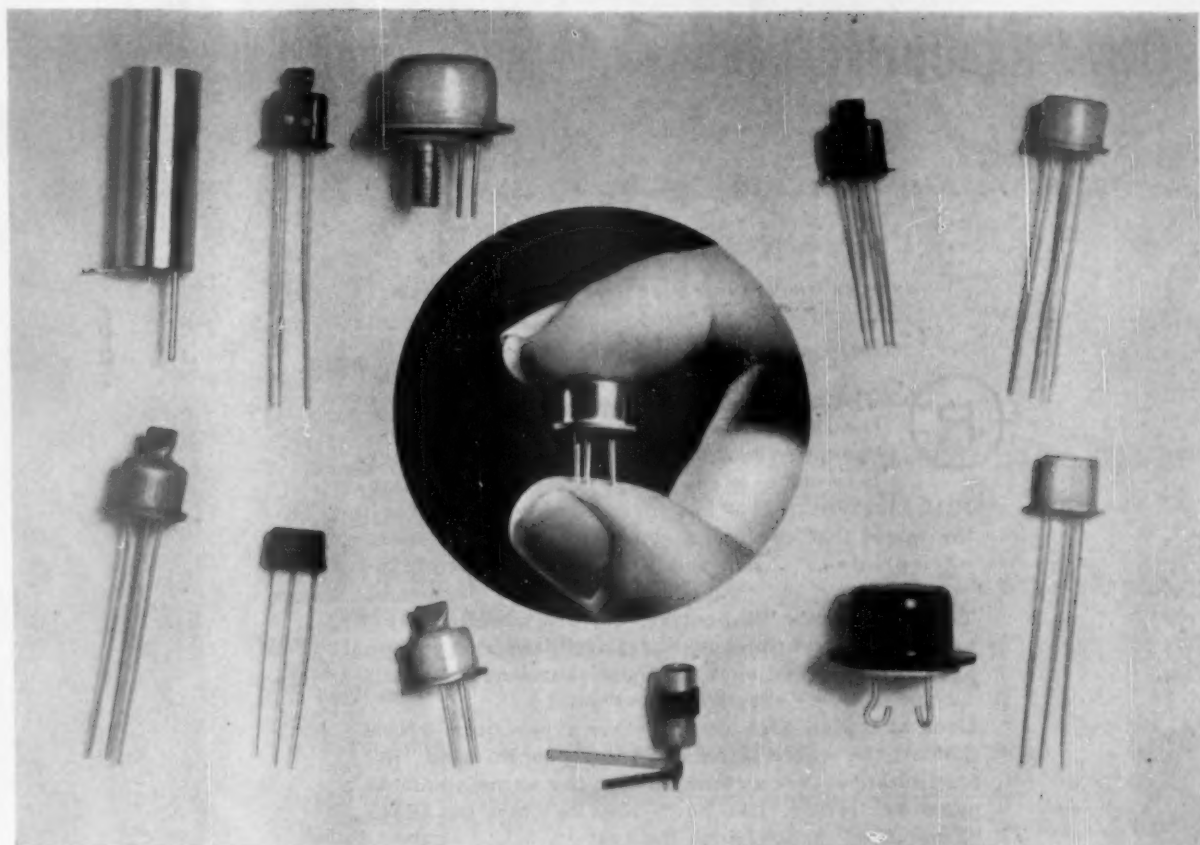
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SAN FRANCISCO 2, 291 Geary Street
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BREAKS THROUGH HIGH-FREQUENCY BARRIER. Shown in the circle, about actual size, is the Bell Telephone Laboratories new Transistor that performs at record high frequencies. In telephony, it can amplify 2500 conversations sent simultaneously on a pair of wires. In the background are some of the many other types of Transistors developed at Bell Laboratories.

Latest Bell System Transistor Opens the Way to Many New Uses

Entirely new type provides ultra-high-frequency amplification
never before possible in this mighty mite of electronics

The Transistor has made tremendous progress since it was invented at the Bell Telephone Laboratories. It was first announced eight years ago.

Since that time there have been many Bell Laboratories developments that have increased its usefulness and reduced its cost. The latest invention is an entirely new type of ultra-high-frequency Transistor.

It is made possible by new developments in the controls of microscopic chemical layers. The heart of the new

Transistor is a layer of germanium only 50 millionths of an inch thick.

This major achievement is destined to have far-reaching benefits in the use and manufacture of the tiny amplifier, especially for electronic applications in telephone and television transmission systems.

Its broad frequency band also offers great possibilities for color television sets, guided missiles and electronic brains for military and business uses.

The new Bell Laboratories Transis-

tor shows how the money invested in telephone research creates significant advances and develops them into useful tools for telephony and the nation.

The Transistor is a tiny device that can do amazing things in amplifying electric signals. It can do many things a vacuum tube can do—and more besides. Yet it is simple, rugged and long-lived and requires only a fraction of the power of a vacuum tube.

BELL TELEPHONE SYSTEM



Only "Executive" letters give such graphic results!

®

IBM

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®

The registered trade-mark "Executive" is the IBM name for our completely unique "proportional spacing" electric typewriter. It is not only the finest model in the entire IBM Electric line -- but it is the only typewriter in the world that can make your letters look as if they were printed ... like this "Executive"-typed letter.

That's why only "Executive" letters command such respectful attention ... boost company and personal prestige ... give such business-building results.

Look at typing done on any other typewriter. Note that all the wider letters of the alphabet, like "m" for instance, are crammed into the same space as a narrower letter, like "o." Now see how the IBM "Executive" proportions letters:

iiii
oooo
www
mmmm

See how each letter is allotted its own natural amount of space. Remember, no other typewriter -- manual or electric -- gives you this "proportional letter spacing."

Your IBM representative can show you a sample of "Executive" typing on your own letterhead. And he'll show you how the "Executive" pays for itself fast by increasing office efficiency. Why not call him?

IBM

IBM

ELECTRIC TYPEWRITERS

...outsell all other electrics combined!

Electric Typewriters • Data Processing • Time Equipment • Military Products



Nation's Business

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Electric Typewriters • Data Processing • Office Equipment • Military Products

More "muscle" for moving

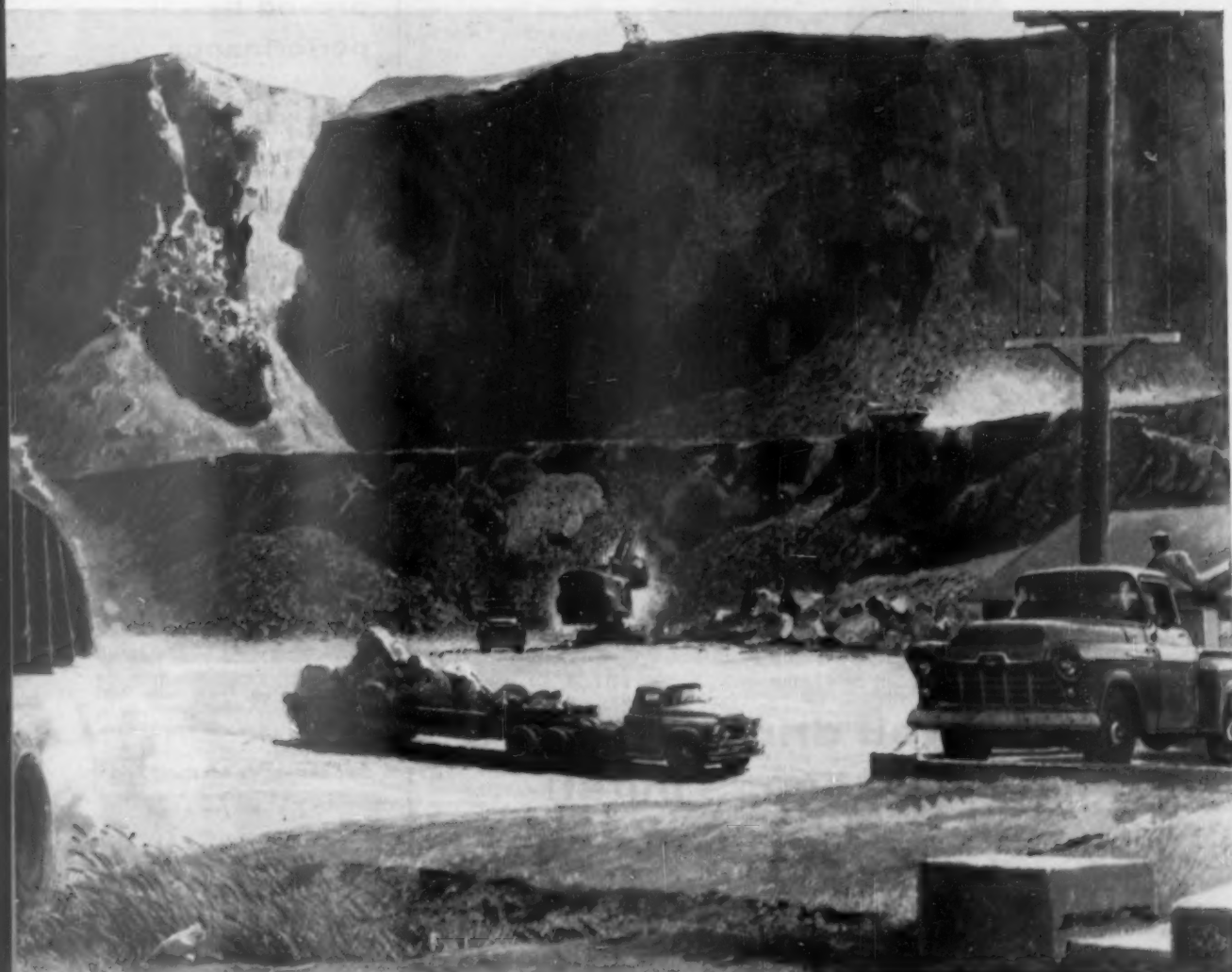


New Chevrolet Task-Force

Anything less is an old-fashioned truck!

CHEVROLET

mountains of payload!



New lightweight champ (at right) Task-Force pickup. New heavyweight champ (at left) with Triple-Torque tandem—rated up to 32,000 lbs. G.V.W., 50,000 lbs. G.C.W.

Trucks You can see right off that Chevrolet trucks have put on pounds in the right places. And it's all muscle! The days of slow-moving, cumbersome, hard-to-manage trucks are gone forever once you put a Chevrolet on the job. Any job.

Say *your* job calls for high-tonnage hauling and you need something like that Chevy six-wheeler in the picture. Your Task-Force model comes equipped with the big new Loadmaster V8—a short-stroke powerhouse with 322-cubic-inch displacement.

This tandem has a 3-speed power divider built in. Teamed with the 5-speed transmission, you've got

15 forward speeds, and 3 reverse! For even smoother going, specify *Powermatic* (extra-cost option). It's a Chevrolet exclusive and the most modern truck automatic transmission on the market.

That's a sample of what the new heavyweights have to offer—a good indication that all '56 Task-Force trucks are flexing big new "muscles."

Get down to specific business with your Chevrolet dealer. He'll talk short-stroke V8, Hydra-Matic, Work Styling. He'll show you how they work together with important exclusive features to give you today's best truck buy. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.



the water you drink may have quenched Caesar's thirst!

Water is indestructible.

Heat it . . . freeze it . . . put it under pressure . . . it always returns to its original form and to the ocean from whence it came.

The cycle is endless. Unfortunately, there's no more rainfall today than twenty centuries ago. Meanwhile, home and industrial consumption of water is rising to staggering proportions.

Will we have enough for the future?

You can help make sure we will. By encouraging advance planning of adequate water facilities. By supporting vital water financing. By encouraging realistic water rates. Beginning now!

The day when America could take its water for granted is long since past . . . as dead as Caesar.

CAST IRON... proved by performance

No question about the dependability of cast iron pipe. Its service record is outstanding.

Over 70 American public utilities are still using cast iron mains laid more than a century ago.

If cast iron pipe is used in your community, rest assured it will keep on serving without trouble. This means conserving your water . . . and your tax dollars.

The Nation's Most Reliable Carrier of Water



Laid more than 100 years ago, this cast iron water main still serves the City of New York. Today, modernized cast iron pipe centrifugally cast is stronger, more uniform, more efficient.

Dependability for Gas, Too

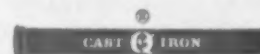


This cast iron gas main, laid over 100 years ago by Hartford Gas Co., is still in service.

Century-long service records prove that cast iron gas mains are remarkably efficient, reliable and economical.

Cast Iron Pipe Research Association, Thos. F. Wolfe, Managing Director, 122 So. Michigan Ave., Chicago 3.

CAST IRON PIPE



management's WASHINGTON LETTER

► CONGRESS WILL QUIT about end of July. That's forecast of lawmakers.

Adjournment fever is stimulated by approach of national political conventions, fall elections.

As result, House and Senate members are speeding action on major proposals, writing off, compromising on those not considered urgent.

Watch appropriations bills. They're setting legislative pace, will signal end of 84th Congress.

Record will show about 12,000 bills introduced in House, 4,200 in Senate.

► PLATEAU--DESCRIBES OUTLOOK for economy for remainder of year.

Feeling in Washington is that '56 will average out better than '55.

Difference is that big growth of past year won't characterize 1956 growth.

Industry spokesmen at midyear outlook conference at U.S. Chamber--held after President's operation--conclude illness doesn't change expectations.

Look for some soft spots during third quarter, with fourth quarter pick up.

That's what Administration's economists expect.

Explanation for '56 plateau is this:

Big growth rate year ago, up from '54 slow-up, relied heavily on debt expansion--at a rate not maintainable over long period.

That means expansion rate was higher than long-term average, doesn't mean debt can't grow more.

Note: Consumer credit rose \$296 million in past month--compared with \$539 million increase year ago.

► BUSINESSMEN REAFFIRM CONFIDENCE expressed 3 months ago--with even bigger outlays for new plant and equipment.

In latest check with industry, Commerce Department finds expansion plans will move steadily upward through fourth quarter.

Annual rate will reach \$36.7 billion, up from \$32.8 billion in first quarter.

Commerce Secretary Weeks says every major group expects further to increase its plant and equipment spending during third quarter.

Total for year will average out about \$35.5 billion, compared with \$28.7 billion for 1955.

► OVER-ALL EMPLOYMENT PICTURE is brightest ever.

U.S. is approaching all-time peak, expected in August.

Total reached 65.2 million mark month ago, will move beyond that this month.

Best guess is that it'll pass 66 million in August--may even go to 67.

That'll surpass previous record: 65.5 million last August.

Soft spot to watch is auto industry, where unemployed total now is 200,000, although many auto workers caught in layoffs are finding jobs in other lines.

► SHORTER WORK WEEK--with no loss in pay--is labor's next big objective.

Labor's drive for shorter working hours is quickened by auto layoffs.

Drive will be two-pronged:

In bargaining, unions will seek shorter hours at same pay as 40 hours. Walter Reuther's United Auto Workers have begun study to back up demand for 32-hour week when auto contracts expire in 1958.

In Congress, labor will press for revision of wage-hour law. It wants time and a half overtime to begin after 35 hours instead of 40.

► LOOK AT QUARTERLY GROWTH of personal income to keep economy's pause for breath in perspective.

During second quarter last year personal income (at annual rate) increased \$6.9 billion.

Increase during third quarter was \$5.6 billion. Another \$5.4 billion came in fourth quarter.

Then came \$2.1 billion increase during first quarter this year--compared with \$2.8 billion increase for same period year ago.

Now: Upward trend continues. Latest personal income annual rate is \$317.1 billion--up couple of billion in a month, up \$18.2 billion in a year.

► BOOMING WORLD TRADE SPURS unprecedented demand for U.S. flag vessels in foreign commerce.

Maritime Administration is being bargained with requests to bring additional ships out of the 2,100-vessel National Defense Reserve Fleet.

Maritime already has released 20

ships from mothball fleet, is expected to free more for international service in weeks ahead.

Factors behind soaring demand for ships include expanding European market for U.S. coal, foreign aid shipments.

Tonnage exported and imported by U.S., rising 33 per cent in past year, sets new peacetime record for one year: 125 million tons.

Continued rise is anticipated this year.

►LOOK AT FEDERAL TAXES to see how times change.

Federal tax collections in 1913 totaled \$344 million.

Of that sum, income tax accounted for 10 per cent, or \$35 million.

At today's rate U.S. collects that much every 1 hour, 28 minutes.

►SCREWY SALES PATTERN has auto dealers scratching their heads.

Facts are these:

Sales of new cars have been off this year compared with last year's record high.

When such a dip occurs it's usually followed by a slump in used car sales.

But this year the opposite has happened: Used car sales are soaring, said by industry to be at highest level in 5 years.

Industry says many motorists have turned to used cars because of tightened restrictions on financing of new models, extended guarantees on used cars, trend toward purchases as second car.

►THOSE NEW SKILLED WORKERS you're looking for may already be on your payroll.

Here's what happened recently in a big midwestern manufacturing firm:

Company was searching frantically for skilled help when employee suggested that abilities of persons already employed be re-evaluated.

Results startled management, which found for first time it had untapped pool of skill right under its nose.

Point is this:

Hundreds of company's veteran employees had upgraded themselves over the years through self-development courses, special technical training, outside experience.

Now firm is concentrating on upgrading, promoting people already on hand.

►IMPACT OF AMERICANS WORKING, living overseas will get new emphasis in months ahead in U.S. world relations strategy.

Note: 2,500 American firms are operating 7,000 branches outside U.S.

Estimated 5 million Americans--military, civilian personnel, employees of business, their dependents--work abroad.

Foreigners these Americans meet daily are prime targets of stepped-up communist propaganda to undermine free-world confidence in U.S. economy.

Book on representation of U.S. abroad will be published this month by American Assembly, Graduate School of Business, Columbia University.

►UPSURGE IN NUMBER of youngsters in U.S. promises big market expansion for makers of items popular with kids.

Consider soft drinks:

Biggest consumption is by persons in 10-19 age group.

Numerical growth of this group is expected to be triple that of total population growth in next 10 years.

Sales of bottled soft drinks reached new high of 1.3 billion cases in past year--184.2 bottles per capita.

►RUSSIA'S COMING MANPOWER SQUEEZE explains Soviet offer to reduce size of Red army--revealed in Nation's Business last November.

In exclusive interview, Russian manpower expert Nicholas DeWitt of Harvard research center pointed out:

Russia faces immediate and long-term shortage of draft-age youths as result of low birth rate, high infant mortality since early days of World War II.

This makes cutbacks in size of Soviet army mandatory--not voluntary, as Moscow wants world to believe.

Point to watch:

In coming months you can expect increasing flood of communist propaganda interpreting reduction as peaceful move.

Satellite countries may also announce reductions--as follow through.

►COMMUNISTS SWITCH ATTACK to West Coast with 600 per cent propaganda increase.

Blasting western U.S. with high

management's WASHINGTON LETTER

powered transmitters from Siberia, English-language broadcasts are now on 7 hour day, 7 day week schedule.

Old schedule was 1 hour per day.

Half news, comment, half music, Reds aim 98 hours of broadcast propaganda a week at U.S.

Transmissions to East Coast originate in Europe.

Other changes reveal communist propaganda program for months ahead: Broadcasts in Portuguese, doubled.

Spanish broadcasts to Latin America, up 50 per cent.

Broadcasts to Indonesia, also on air 50 per cent longer.

Moscow broadcasts to all the world now total 746 hours a week.

►NEW STEP-UP PROGRAM MOVES Soviet navy into nuclear weapons field.

Aware of their lethal potentialities in shipboard use, Red fleet is acquiring guided missiles.

This could lead to new offer: To reduce naval manpower in near future.

New huge Soviet navy has:

More than 400 submarines, 27 cruisers, 175 destroyer-type ships, about 3,000 naval airplanes for fleet support.

High percentage of these units are new, modern.

►SMALLER COMPANIES CAN LOOK forward to higher profit gains than larger firms in months just ahead.

Trend shows manufacturing firms with up to \$1 million assets moving ahead half again as fast as firms with more than \$1 million in assets.

Percentage gains in one year: 39 for smaller companies, 26 for larger.

Small Business Administration says trend is expected to continue.

►REPROGRAMMING--BUREAUCRATIC TERM you'll be hearing more about.

Roughly translated, it means taking money Congress appropriated for one purpose, spending it for another.

Here's example:

Congress appropriates money for Type X airplanes to transport tanks.

Pentagon cancels order for Type X, orders Type Y--which can't haul tanks. Now planes, pushed up, carry passengers --not tanks--on military airline.

Involved: \$110 million.

Congressmen aren't happy, demand closer control, accounting by Pentagon.

►NATION'S HUNGER FOR ELECTRICITY is revealed in expansion plans of major power companies.

Example: E. A. Yates (of Dixon-Yates) says Southern Company of Birmingham will spend more than \$700 million in next 6 years to expand generating capacity in 4-state region.

►WILL YOUR BUSINESS GROW or shrink in years ahead? Should you move from central business district to suburb?

If you're in retail, wholesale or service areas of distribution you can get help in planning from new Census Bureau study.

Reports show sales trends, changes in number of establishments, other marketing data for all states, territories, District of Columbia--with breakdowns for counties and cities.

Some state bulletins are available now. Others will be issued soon.

National summaries also are planned.

For copies write Census Bureau.

Bulletin to watch for this month or next tells how downtown business is doing in comparison with suburbia in 48 major metropolitan areas.

Also: You'll find useful answers in So You're Going Into Business, new 20-page booklet published by Domestic Distribution Department, U.S. Chamber of Commerce. Single copies free.

►BRIEFS: Steel industry includes \$1.1 billion in budgets merely to replace facilities that wear out each year. . . Savings and loan associations now have \$32.3 billion, growth from \$7.4 billion in 10 years. . . Larger deep-water vessels will start arriving at Lake Erie ports (Cleveland, and others) around January, 1959--in line with St. Lawrence Seaway development. . . One-teacher schoolhouses numbered 148,711 in 1930, now number 39,061. . . Justice Department's Civil Division has 20,000 cases on behalf of or against U.S.--out of 60,000 civil cases started in federal district courts in one year. So Justice is looking for ways to reduce case-load.

Here is your money-saving
**INSURANCE
"PACKAGE"**



Complete home protection in one comprehensive

PLM HOMEOWNERS POLICY

Tailored to today's needs, this modern-day insurance protection for homeowners saves time, trouble, worry and—not least—money.

WHAT IT COVERS

Your Dwelling against loss by fire, lightning, windstorm, explosion, hail, smoke, vehicle damage, riot and vandalism.

Your Personal Property against theft, in addition to all the above hazards.

Your Additional Living Expenses which a loss might temporarily entail.

Your Personal Liability for any claims for accident sustained on your premises.

WHAT IT COSTS

Actually, you pay 20% less for this broad protection, bought thus in one policy, than you would for the same coverages bought separately. And—as a further saving—you may anticipate a generous dividend.

WHERE TO GET IT

Your PLM representative. Write us for his name. No obligation, of course.



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Mutual Insurance Company**

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Writing FIRE and ALLIED LINES

"In the Birthplace of American Mutual Insurance"

Letters from businessmen

Significant service

I thought your write-up on the Military Air Transport Service was exceedingly good [June issue] and I think you performed a significant public service in bringing to the attention of the public the huge cost of this government-owned airline and the extent of its competition with private enterprise.

Please do not mistake me: I have always been in the forefront of those advocating more and more dollars for national defense. At the same time I feel it is necessary to save money wherever possible so that we can get more combat striking power for each dollar.

A transport plane is a different article from a B-52 or a tank; unlike the others it has a definite peacetime commercial use and hence, if the government traffic policies are properly adjusted as our House Report 2104 attempted to do, a strong civil airlift reserve can be built up to be available for instant military use in the event of war and meantime will not be a burden upon the taxpayers.

REP. DANIEL J. FLOOD
Congress of the United States
Washington, D.C.

An eye on everything

We wish to congratulate you for the excellent coverage and thorough analysis of business conditions in the United States. We are relatively new in the U. S. market (but among the oldest on the world market) so we must keep an extra eye on everything that is happening. NATION'S BUSINESS, therefore, has been our business each month, and has been of great help.

Your special features, such as "How To Make a Business Decision," "Offices Short 600,000 Workers," and many more, have been interesting and helpful in many ways.

ERIK A. OHLSSON, Pres.,
Facit Inc.,
New York, N.Y.

Romper set upswing

Your article "Your Market in the Next Ten Years" [May issue] proved very interesting to me. How did you arrive at 18,800,000 children under five years of age? I have not been able to compute (that) figure and would be very interested to

know what method you used. Another question: What is the basis for feeling that the number of children under five will be greater in 1960 than in 1955?

Yours is a very interesting article and I enjoyed reading it. I feel that information of this nature is very useful when formulating future plans.

CALVIN W. TILLMAN,
Marketing Research Dept.,
Gerber Baby Foods,
Fremont, Mich.

►18,800,000 is the projection, to July 1, 1956, of Census figure of 18,307,000 on July 1, 1955, calculated on rate that current population figures exceed previous estimates. Increase in 1960 predicated on assumption of continuance in upward trend in baby boom.

Laws waste roads

The article "Slow Traffic Laws Waste Fast Roads" in the April issue is the most practical and realistic approach to this problem that I have read.

A. J. OLIVER,
Ohio Bell Telephone Co.,
Cleveland, O.

Supervisors' aid

An article entitled "How to Make a Business Decision" appeared in the April issue of NATION'S BUSINESS. Since it is so beneficial for supervisors, we suggested that it be distributed to our personnel. Unmindful of the fact that it could be purchased from your office, over 100 copies were duplicated. My question is—May we use the duplicated copies for internal distribution to our supervisors?

D. J. SULLIVAN,
Kaiser Aluminum &
Chemical Corp.,
Halethorpe, Md.

►Permission granted

So timely

"Ten Steps to Help You Sell" [April] is so timely and covers such fundamental relations that we would like to take advantage of your reprinting services. Will you forward 50 reprints?

M. O. NINGARD, Vice-Pres.,
Commercial Credit Corp.,
Baltimore, Md.

Pass the word

I have read with great interest in the May issue "How To Delegate Responsibility." This article is certainly educational and should be



Jenö Paulucci, President of Chun King Sales, Inc., says

"You're looking at a million-dollar menu!"

"Only two years ago, we started freezing our Chinese food and selling it around Minnesota.

"Now, we've sold millions of dollars' worth throughout the U.S.A. — captured half of a \$25,000,000 market — all with food prepared in our one plant in Duluth!

"Food brokers and buyers receive our Chow Mein, Egg Rolls or whole Cantonese dinners anywhere in the 48 states — within a few hours!

"How do we do it? We pack these new delicacies in dry ice and rush them Air Express! With Air Express, they travel fast and sure, taking hours instead of days for delivery.

"Air Express never fails us. In fact, it's opening up the whole country as our regular market.

"And yet, most of our shipments cost less than any other air service. 15 lbs., for instance, Duluth to St. Louis, is \$4.67. It's the lowest-priced complete air service by \$2.98!"



Air Express



GETS THERE FIRST via U.S. Scheduled Airlines

CALL AIR EXPRESS . . . division of RAILWAY EXPRESS AGENCY

*After careful study,
Massachusetts
chose **BLUE CROSS**
protection for
State employees!*



THE HON. CHRISTIAN A. HERTER,
Governor of the Commonwealth of Massachusetts,
says this of Blue Cross:

"In my Annual Message in January 1955, I proposed to the Legislature to enact a law that would help State employees meet hospital and medical expenses. The Legislature, after study of this problem, enacted into law Chapter 628. Under this law, the State Employees' Group Insurance Commission awarded the hospital and medical contract for 33,000 employees to Blue Cross-Blue Shield. Thus, Massachusetts became the first State in the Union to offer this protection to its employees."

Blue Cross Plans, serving locally coast to coast, bring Americans this famed program for prepayment of hospital care... the only one officially approved by the American Hospital Association.

THE SPECIAL advantages of Blue Cross protection are recognized today in all fields of employment. And the fact that more than 50,000,000 Americans have become Blue Cross members—mostly through employee groups—indicates how successfully this service meets their needs.

The Blue Cross aim is unique. Local Blue Cross Plans everywhere have the same objective: to provide for needed hospital care, rather than just dollars. A "partnership" with local hospitals makes possible this practical kind of service. To get care, a member simply presents his Blue Cross card when he enters a participating hospital. The Plan then pays the hospital directly. This is

one reason why Blue Cross Plans alone are officially approved by the American Hospital Association.

Saves work for management. By handling details of payment directly with hospitals, local Blue Cross Plans spare employers time and expense in filing claims and following up cases.

The cost is low. Each local Blue Cross Plan is organized not for profit. Every cent paid in, except for low administrative expenses, is set aside to pay hospital bills. To give fullest value, costs and benefits are locally set to meet local needs and conditions.

A flexible service. Blue Cross protection is easily adapted to special requirements of employee benefit programs in both large and small companies. Also, through simple arrangements, the employee may continue his Blue Cross membership after retirement.

For complete facts on Blue Cross, contact your local Blue Cross Plan. Or write Blue Cross Commission, Dept. 707, 425 North Michigan, Chicago 11, Ill.

Just a few of the 345,000 companies with Blue Cross

BENDIX AVIATION CORP.
CROWN ZELLERBACH CORP.
DEEP ROCK OIL CORP.
GENERAL MOTORS CORP.
H. J. HEINZ COMPANY
J. STEVENS ARMS CO.
LIGGETT & MYERS TOBACCO CO.
SUNKIST GROWERS, INC.



BLUE CROSS

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The American Hospital Association

read by every executive down to the lowest supervisory levels. Would you be kind enough to send us about a dozen copies for distribution to our various levels of supervision?

A. R. SUTTON, *Manager,*
The Quaker Oats Company,
Pekin, Illinois

Special interest

You have done a splendid job with your articles of special interest to business people, such as "How To Delegate Authority," "You Can Grow Your Own Executives," and "How to Make A Business Decision." Your fine staff of writers is to be complimented.

As a public service we have secured reprints of several of these articles which we have forwarded to a large number of our clients, with credit given to Nation's Business. Please keep up the good work.

EARL A. SMITH, *President*
Western States Bureau of Investigation
Los Angeles, Calif.

New and pleased

Please send us a reprint of your article "Three-Year Study Shows How Managers Are Made" which appeared in the March issue and which was referred to in your May issue. We received your magazine for the first time in May and think it one of the most informative we've read in quite some time.

MEL R. SUMMERS, *Pres.,*
Summers Construction, Inc.,
Irving, Tex.

Plywood plight

Since the reduction of the tariff in 1951, imports of hardwood plywood have increased 927 per cent and now absorb approximately 42 per cent of the domestic market. Hardwood plywood imports have increased from 67,000,000 square feet in 1951 to 618,500,000 square feet in 1955. The Japanese, with a wage scale one-tenth of ours, are the principal offenders.

Japan recently was admitted to GATT, and the U. S. last year concluded a trade agreement with that country and with a number of others. In these negotiations the U. S. lowered a number of tariff rates, the consideration for which was that these countries would grant concessions to Japan. Even with this generous offer, some 14 important trading countries, including England, refused to negotiate with Japan, which left the U. S. to absorb a large part of the rapidly increasing Japanese exports. This has resulted in increased imports of a number of commodities from that country. We cannot compete.

W. A. STILLEY, JR., *Pres.,*
Stilley Plywood Co., Inc.,
Conway, A.C.



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PROGRESS:

Manufacturer sets up tech school to beat shortage

PLAGUED with a continuing shortage of draftsmen, Fisher Body Division of General Motors Corp. is operating a distinctive training program for high school graduates.

The division requires between 600 and 700 skilled body draftsmen at all times.

Now, with the plan operative a year, 70 young men have already been placed in the production drafting staff, and another 60, graduates of the second training group, are about to be added.

Like other large companies, Fisher had attempted orthodox ways of recruitment—advertising, canvassing, providing body drafting instructors for high schools and privately operated specialized schools around Detroit, and the like.

None of those methods worked well enough. Its own training program, Fisher believes, may be the best approach yet. It can be generally applied, and perhaps in a number of fields of skill. Fisher's costs, though substantial, are in no way out of line when measured against either need or the total cost of drafting operations. The decision was simply to spend whatever was necessary to solve the problem.

Engineering executives responsible for Fisher's over-all training program make personal contact with Detroit-area schools. Students who graduate with six semesters of high school drafting or its equivalent (sometimes gained by practical work or in other ways) are told of the advantages of taking advanced training at Fisher—pay while learning, and a steady job as soon as the course is passed.

Those with obvious deficiencies are discouraged from taking the test which must be passed to qualify for admission.

This test has a six-hour time limit, adequate for the problem to be solved. Each student is given a copy of a partly completed blueprint of an auto body part. He is required to copy on another sheet the two

views shown, add the third dimensional view to scale, and enter dimensions in decimals, obtaining the figures from general information on the master print.

If the work is not completed within the time limit, it is deemed not satisfactory. Time required is counted in the grade, along with such standards as application, projection, correctness of drawing, lettering, neatness, dimensioning, composition, and the general attitude of the student.

There are four grades—superior, above average, satisfactory, and not satisfactory. All grades except the last are passing.

The successful young men then go to school for four to six months, the time required to bring them up to the skill deemed necessary for their first production job. During that time they are paid at rates fairly close to those of junior detailers, and modest raises customarily are granted at the end of the training period. Earnings of junior detailers in Detroit currently cluster in a range close to \$275-\$300 per month.

The young men go to school full time, doing no other work. Their instructors are drawn from Fisher's own pool of senior draftsmen customarily used for training duties. The effort is to provide one instructor for approximately 15 students.

The student's training begins with review and extended practice on elementals such as lettering, drawing sizes and scale of drawings, line standards, abbreviation of engineering terms, and retracing. Training is then given on third angle projection as used in master drafts, layouts and details. At this point such problems are introduced as the completion of certain views and proper dimensioning.

Descriptive geometry is provided, with applied problems on production drawings involving compound angles and creation of true views. A final phase includes instruction on master drafts, placement of views,

product drafting rules and practices, and line designation and templates.

All this work, of course, is pointed toward automotive drafting specialization, one of the most complicated spheres of the drafting art.

During their schooling the students are on probationary status. So effective has screening been, however, that loss by withdrawals or eliminations has been less than four per cent in the first two training groups.

Once the trainees graduate, they are put to work as junior detailers, the customary starting classification.

The Division does not take its eye off its school graduates once they have gone to work as regular employees.

Extra-hour courses are offered to draftsmen already employed. One, with about 60 members, is now operating two evenings weekly for those who seek to advance from junior detailer to body draftsman. Another, with about 75, is for more experienced body draftsmen who wish to qualify for major layout work.

These courses are free and are taken on a voluntary basis. There is no payment for classroom time, as in the initial training course. Instructors in these advanced classes are also Fisher staff members, serving on an extra-time arrangement in addition to their regular duties.

These latter courses offer opportunity for diligent employees to improve their ratings and pay checks in rapid order. Top-level draftsmen, still below supervisory level, make around \$7,000 a year in automobile body drafting.

Fisher executives expect few losses of men to other companies once they have completed student training. A program of salary increases for those showing progress is in effect, based partly on a close watch on individuals to make sure they are not lost in the shuffle. Salary gains of as much as 25 per cent are not unusual during initial years of employment, depending on individual ability.

Test examinations qualifying high school graduates for entry into the Fisher school are being extended outside of Detroit. Recent examinations were given to 15 prospective enrollees at Janesville, Wisc., site of a Fisher plant. Of this group five were accepted for training.

With some 200 different automobile models likely to be in various developmental stages all the time, Fisher's continuing need for draftsmen is expected to result in maintenance of the program for an indefinite period ahead, trimmed down as may be necessary to avoid any surpluses while keeping all places filled.—STANLEY H. BRAMS

"Sorry to bend your ear this much," he apologized.



The Credit Manager "takes" a loss

"Sit down, John." The Treasurer seemed almost too affable, and the Credit Manager felt uneasy as he took his seat. "John—" the Treasurer looked uneasy, too. "I'm faced with a problem. Costs. We've got to cut them."

The Credit Manager wanted to look away, but he met the Treasurer's glance.

"Volume is good," the Treasurer went on, "but with costs still rising, our profit margin is slipping. So—" he laughed unconvincingly—"the Board has given me the chore of chopping costs. Nothing but essentials must remain. That," he concluded, "is where you come in."

"At least," the Credit Manager thought, "he didn't say it's where I go out!" Then he realized he hadn't been listening.

"—with Credit Insurance, we've been paying for protection where we haven't had any losses to amount to anything for years. I'll have trouble justifying this." The Treasurer looked reproachful.

"Justify Credit Insurance?" The Credit Manager spoke with an appearance of calm. "First, there was the matter of using our insured Accounts Receivable as collateral for that sizable loan last year." He smiled inwardly as the Treasurer looked away. "Then, there is the matter of our increased volume over the past four years. Next, our control of losses—" he stopped as the Treasurer held up a hand.

"John," the Treasurer sounded regretful, "you make an excellent case. Nevertheless, something's got to go. In your department, Credit Insurance is the only thing I can see that's—uh—expendable." He held up his hand again as the other seemed about to speak. "Now, if you could insure just our marginal accounts . . . But something's got to go!"

The Credit Manager looked ruefully at the man from American Credit Indemnity. "Sorry to bend your ear this much," he apologized.

The American Credit man looked thoughtful. "I'm not sorry at all," he said, "because I'm sure we can help you. Not by accepting only your marginal accounts, because that

would not be good for you or us, but simply by raising your primary loss."

"Raising our loss? Good grief, Joe, I couldn't agree to a thing like that!" The Credit Manager sounded anguished.

The American Credit man was amused at the other's reaction. "The expression isn't 'loss', John, it's 'primary loss'. Remember?" The Credit Manager nodded. "Well," the other went on, "by raising your primary loss, we can reduce your premium, and you'll still be getting protection where you need it most: on all amounts above—say, twenty-five thousand dollars."

"Hmm! I never thought I'd be glad to accept anything higher than had the word 'loss' in it, but this sounds like a good solution, Joe!" The Credit Manager smiled for the first time, "and even if we raise the loss in that sense, we'll still have the door barred against really serious losses!"

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Trends

of Nation's Business



THE STATE OF THE NATION BY FELIX MORLEY

If we respect our standards the world will respect us

IT WOULD require a very large birthday cake to contain the candles appropriate for the Fourth of July this year. For on that date this republic attains the venerable age of 180. That many years have come and gone since the Continental Congress, "appealing to the Supreme Judge of the world for the rectitude of our intentions," declared unanimously "that these United Colonies are, and of right ought to be, free and independent states."

But if this declaration had been no more than an assertion of independence from Great Britain, the anniversary would never have achieved its present world-wide significance. Since July 4, 1776, dozens of subjected areas have broken the ties that bound them to other countries. Few can even name all of the 18 new nations established since the close of World War II. Why, then, does the birth of our republic receive such universal recognition?

Material success is certainly not the explanation. It is legitimate cause for pride that the United States has steadily grown in wealth and power, while so many other nations have withered on the vine and lost a freedom which for various reasons they were unable to maintain. But prosperity and physical strength tend to inspire envy rather than admiration among those who lack these assets. There is a deeper reason why July Fourth is a notable day throughout the whole free world.

The Declaration of Independence, though received with distaste and skepticism 180 years ago,

nevertheless proclaimed to the world not only a new nation, but also a wholly new philosophy of life. It is what we call "the American way," far more than the individual and collective benefits resulting therefrom, that has made the birthday of this republic worthy of respect by all mankind.

"We hold these truths to be self-evident: that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness; that to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed; that whenever any form of government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its foundation on such principles, and organizing its powers in such form, as to them shall seem most likely to effect their Safety and Happiness."

No other political manifesto, anywhere or at any time, has ever asserted that government has only a conditional authority and that its purpose is to serve rather than to dominate the people. Under the British system men were "subjects" of His Majesty's government and were expected to conduct themselves as such. Americans decided to be citizens rather than subjects; to control their officials instead of being controlled by them. That was the revolution in political thinking that made, and after 180 years still makes, this national birthday internationally significant.

There is, of course, no guarantee that it will remain so. The essence of the American way is that the central government should be kept under con-

State of the nation

stant restraint, so that it may never encroach upon the rights reserved to men as individuals. Many safeguards to that effect were written into the Constitution, which sought to transform the ideals of the Declaration into permanently binding law.

From its establishment as the nation's capital, however, Washington has tended to centralize power on the argument that only thus can the "safety and happiness" of the American people be assured. The counterargument is that big government is precisely what the Declaration of Independence opposes. There is certainly something timely in its denunciation of King George because: "He has erected a multitude of new Offices and sent hither swarms of Officers to harass our people, and eat out their substance."

• • •

Under our system there can be no fixed point at which all will agree that the power exerted by the central government is exactly what it should be. Always some will argue that it ought to be doing more for the people. Always some will protest that the rights we call "unalienable" are already alienated by the "multitude of new Offices." To keep these opposing viewpoints in a generally acceptable balance is the inescapable responsibility laid on American citizens by the Constitution. And while noise and festivity are appropriate for Independence Day, a little quiet thinking on this matter of the essential balance is also wholly in order. For if it should be lost, the meaning of the Fourth of July would be lost with it—not only for Americans, but for the world.

It is our habit to give especial recognition to anniversaries that are measured in round numbers. We celebrate a "silver wedding" rather than the conclusion of 24 or 26 years of marital compromise. Those who have been out of college for ten, 20 or 30 years make a special effort to revisit Alma Mater on alumni day.

So this one hundred and eightieth birthday of the republic is something of an occasion. It is made more so because this anniversary year is also that of a presidential election, always an important test of our national capacity for orderly self-government. This coincidence happens only once in every 20 years, for the simple reason that 20 is the lowest common denominator of four—the number of years in a presidential term—and the round numbers five or ten.

There is some reason to regard 1956 as an unusually critical year, both in the field of foreign and domestic problems. It is therefore the more interesting, and comforting, to recall that the same could be said of every year in which there was a conjunction between a presidential election and a

decennial anniversary of July 4. There have been, in the 180 years since 1776, nine such occasions.

Most of us remember the immediately previous one, in 1936, when Hitler was consolidating his power in Germany; when here at home the AAA and NRA had just been declared unconstitutional.

A smaller number remember 1916, when the issue of our participation in World War I was at fever heat.

A few remember 1896, when William Jennings Bryan was making his first campaign in a nation seething with social discontent.

Possibly an occasional patriarch can still recall 1876, the centenary of the Declaration, when the country was in the depths of business depression and the dubious result of the Hayes-Tilden contest was further inflaming popular passions.

Of 1856—a century ago—nobody can speak with personal knowledge. But we all know that it was the year in which Buchanan's election made many in the North conclude that slavery could only be abolished by Civil War.

In 1836 we were on the eve of a panic year, with the firm hand of Andrew Jackson about to be replaced by the vacillations of Van Buren, the President accused of perfuming his whiskers and "rowing toward every objective with muffled oars."

Still farther back, in 1816, Monroe had no serious opposition for the presidency. But the price inflation, following the inconclusive war of 1812, was proportionately as great as it is today. And the only form of unemployment relief was migration to the newly acquired western territories.

But perhaps the most critical period of all was the first conjunction of a presidential year with a decennial anniversary of the Declaration. In 1796 the new political institutions were untested, Washington was retiring from the presidency, there was bitter rivalry over the succession and a threat from revolutionary France which seemed as great as that from communism today. Yet all of that can now be condensed into a paragraph.

• • •

As in the case of individuals, national problems are never really solved. As one is disposed of, others arise to take its place, often created by the supposed solution. Few of us would change this even if we could, for the spice of life is in the opposition of our abilities to our difficulties.

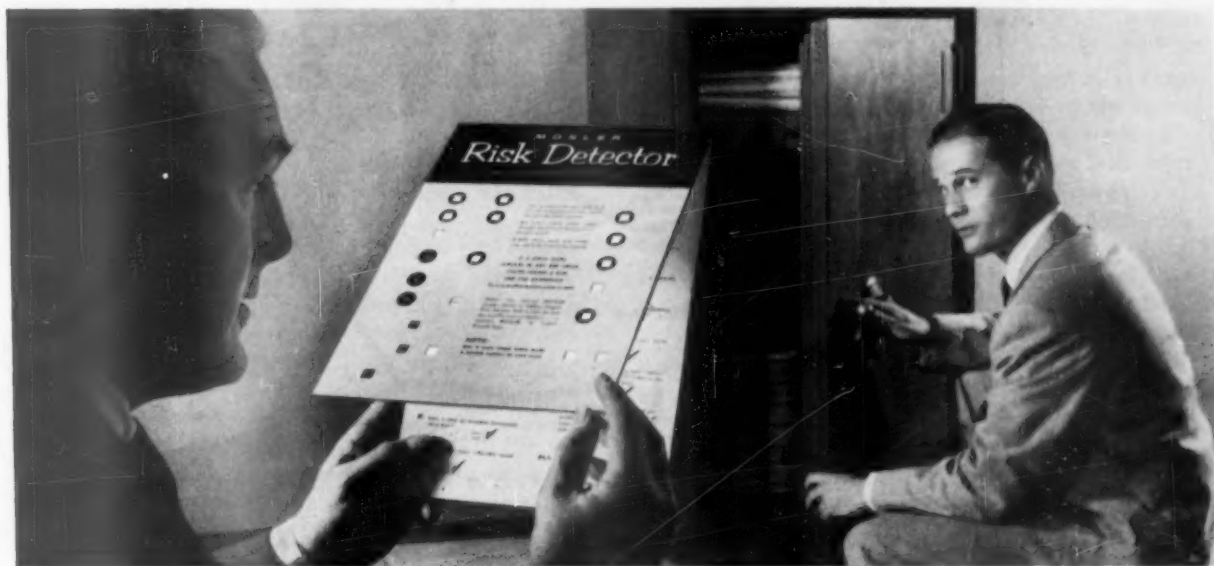
Success or failure in this struggle is not measured by victory or defeat, but by whether or not our standards are successfully maintained. The United States is fortunate among nations in having such standards. Set forth by a handful of rebellious colonists 180 years ago, they have throughout been the basis of our growth to power.

Crises come and crises go. But standards endure. And so long as our first declaration of political standards is respected by Americans, so also will Americans be respected by all mankind.

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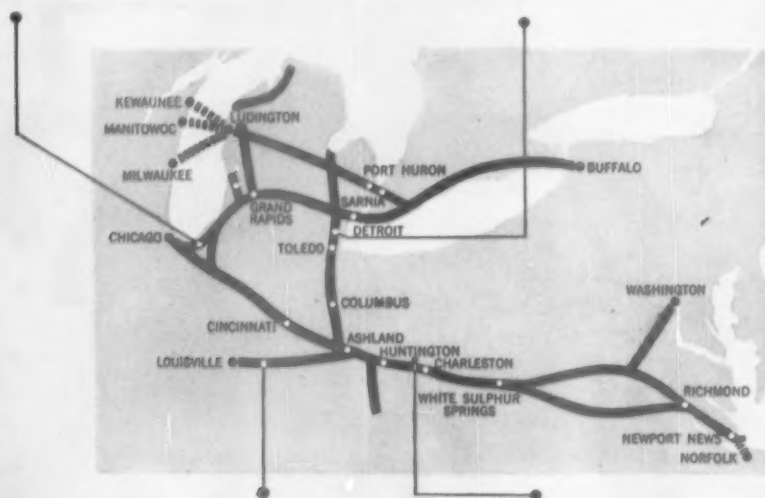
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Trends

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WASHINGTON MOOD

BY EDWARD T. FOLLIARD

Mr. Stevenson matches Mr. Kefauver in handshaking and folksy approach

THERE is a saying that you can never tell what a woman, a jury, or a Democratic National Convention will do.

Just the same, it is hard to see how the Democratic party can deny Adlai Stevenson the nomination for President when it meets in Chicago next month. Having won the prize in '52 without even asking for it—seemingly without even wanting it—he has gone out this time and fought for it. He got up off the floor, as they say, after a jolting defeat at the hands of Sen. Estes Kefauver in Minnesota back in March, and then went on to whip the Tennessean in every subsequent primary, including the crucial one in California.

It must be granted that there is less enthusiasm now for Adlai among Democratic professionals than there was four years ago, when he was a fresh, highly literate and exciting personality. Also, certain democratic leaders have misgivings about his political philosophy, some feeling he is too conservative and some that he is too liberal.

Still, the Illinois statesman appears to have no formidable rival for the nomination, none, that is to say, who seems capable of setting the convention on fire next month. The Stevenson strategists are predicting, therefore, that Adlai will have 400 or more delegates on the first ballot and will get the 686½ necessary to win on the second ballot, or certainly on the third.

Hardly had the votes in California been counted when President Eisenhower was removed to Walter Reed Hospital for an abdominal operation. Once again there was uncertainty but, as this is written, the Republican high command is proceeding on the assumption that the President will carry out his intention to run for a second term.

If it works out that way, the prospect is that American voters in November will have the same choice as in '52—Eisenhower or Stevenson. Although their views clash on several issues, both men are apostles of moderation, or the middle way.

It is precisely because Mr. Stevenson has counseled a moderate course that some elements of the Democratic party are against him. They feel that the middle of the road belongs to the Republican party, and that the party of Jefferson and Jackson must be more adventurous, and offer a more liberal program.

Gov. Averell Harriman of New York, whom Adlai now regards as his chief rival, argues that way. So does Gov. G. Mennen (Soapy) Williams of Michigan. Senator Kefauver, who took pretty much the same stand in the Florida and California primary campaigns, implied that Mr. Stevenson was a sort of Democratic Eisenhower in his political thinking.

"If the Democratic party is to win in 1956," Senator Kefauver would say, "we have no choice but to breathe new life and purpose into it. What was not good enough to win in 1952 will not be good enough to win in 1956. (Yet) some Democrats are willing to try again with the same package which proved unacceptable to the majority of voters in 1952."

• • •

Nevertheless, in state after state, following the Minnesota upset, the voters turned to Stevenson and thus accepted his moderation "package." Especially was this so in California, where the voters favored him almost two to one over the Tennessee lawmaker.

I spent two weeks following Mr. Stevenson and Senator Kefauver in their stretch drive in Florida and California. It was apparent from the outset

Washington mood

that Mr. Stevenson was the stronger of the two. One reason was that Senator Kefauver's favorite tactic—his cry that the bosses were against him, an underdog—was good for only one shot, in Minnesota. It just didn't pay off after that. Another reason was that Adlai exploded the notion that he was too lofty in his oratory and too aloof in his manner. He thought it was mildly ridiculous for two candidates to be "knocking each other out in this mad endurance contest," but he proved that he could work at the folksy approach and the handshaking business just as well as Estes.

There were times in Florida and California when it appeared that the two men were engaged, not in a contest for the greatest political post on earth, but were locked in a frantic race for constable.

In his quest for votes, Adlai went into barber shops, department stores, Florida cigar factories, cafeterias, and out on the beaches.

In their campaigning, Stevenson and Kefauver were continually running into evidence of President Eisenhower's massive popularity.

A voter would come up to one of them, shake hands, and say something like this:

"I'm going to vote for you in the primary, but I want to be honest with you: In November, I'm going to vote for Ike."

Mr. Stevenson always knew, of course, when he was facing a crowd made up of Democrats who went for President Eisenhower in '52, and he had a special way of handling the situation. He would smile and say that he believed in repentance, and then would urge his audience to return to "the party of the true faith." He joshed the Republicans by saying that he had a lot of Republican friends, liked them, and would trust them with anything on earth except public office.

Although he was more down to earth, Adlai seemed to me to be pretty much the same man he was in '52. He is one of the most engaging orators in the land when he is facing a crowd. On television, it is different; then he doesn't dare indulge in the wit and humor with which he regales a crowd in a ballpark or from a courthouse steps.

Mr. Stevenson has been criticized for his jesting, by General Eisenhower four years ago and by Senator Kefauver more recently, but it is evident that he is going to continue with it.

In California, if he came across a crowd when he had not expected that there would be one, he would tell a story about Al Smith and the time Al had to make an unscheduled speech.

Mr. Smith, who had just been inaugurated Governor of New York, made an inspection visit to Sing Sing prison. The warden suggested that

he make a speech to the prisoners while they were having lunch.

"Fellow Democrats," Al began, and quickly knew that this wasn't quite appropriate.

"Fellow citizens," he said on a second try, and then realized he was talking to convicts who had lost their citizenship.

"Well," said the Happy Warrior at last, "I am glad to see so many of you here."

The crowds would roar their laughter when Adlai told the story, even though in a way he had associated them with the felons at Sing Sing.

A lot of his humor was directed at himself, at his bald head, his looks in general, and at his oratory. He would describe himself as an "unemployed politician," and then describe a politician as "a man who approaches every question with an open mouth."

In San Francisco, Adlai spoke at the Press and Union League Club and said: "There is a Democratic tide running in the country this year." Some of the political reporters smiled at this, and concluded that the Illinois statesman was simply trying to fortify his own spirits.

If you leave President Eisenhower out of the picture, you could make out a good case for that tide. The Democrats since 1952 have picked up eight governorships, captured both Senate and House, increased their seats in state legislatures by more than 500, and won mayoralty races in many towns heretofore regarded as Republican.

The tide, however, stops and backs up violently when it runs into President Eisenhower. Once again it is evident that he is stronger than the Republican party, far stronger.

In California, I talked to many politicians and political reporters, and all had the same thing to say: That if an election were held then, President Eisenhower would again sweep the Golden State. High-ranking Democrats, as well as Republicans, saw it that way.

Some of the Californians said that Vice President Richard M. Nixon would hurt the President if he were on the '56 ticket, but they didn't think it would be enough to lose the state for the G.O.P.

Adlai, in campaigning in Florida and California, never once directly mentioned the President's heart attack, and only alluded to it a few times. He would do this by saying that, whereas in the past a man was measured for the job, now the job is being tailored to the man.

Then he would remark that "the Old Guard is lurking in the wings with Mr. Nixon."

In San Diego and in some other places, this thrust would bring a loud "Boo!" for Mr. Nixon, the only booing I heard in the whole two weeks. You could sense that the Democrats hope that Mr. Nixon is again on the ticket. They think he would make a prime target this fall.

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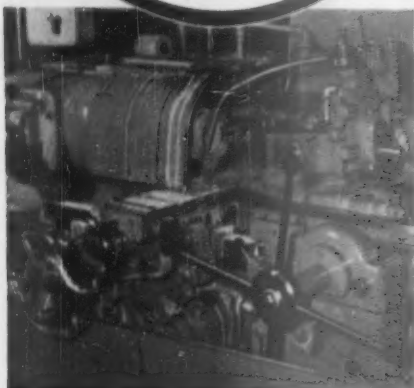
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Texaco Soluble Oil HD is shown here at work helping speed production of parts for Oil-O-Matic Oil Burner at the Eureka Williams Bloomington, Illinois plant.



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Business in politics

how far you can go

Can a business make contributions? Urge that employees vote? Let candidates tour its plants? Here are rules and current practices to help guide your actions

BUSINESSMEN can be effective in politics.

All over the country individual businessmen, companies and business organizations are demonstrating that they can regain the political leadership—nationally and in their local communities—which has been allowed to pass to other groups by default.

Other businessmen, overcoming their feeling that politics "is not quite nice," are asking:

What can a businessman do in politics as an individual?

In the face of federal and many state laws forbidding corporations, banks and labor unions from making direct contributions, what can a company do?

What can business organizations do?

Experience is showing answers to those questions.

As individuals, businessmen have the same political rights and privileges as all citizens. There are many ways they can engage in political activity.

They may contribute up to \$5,000 to as many candidates and political committees as they please. Political contributions are not deductible from taxable income, however.

They can support candidates and organize and serve on committees in their behalf.

They may take to the political platform in support of candidates and issues.

They may work as party officials in their precincts, wards or other levels of politics.

They may run for and hold political office.

More of them can vote, and help raise the per-

centage of businessmen, now roughly between 25 and 35 per cent, who express their political opinion at the only place where it really counts—the ballot box.

As corporations, business—along with labor organizations—may not make "a contribution or expenditure" in connection with any federal election, primary, political convention or caucus.

Most businessmen understand the ban on corporate political contributions and will learn more about it when the special Senate committee completes its investigation of lobbying and campaign contributions. But they are not so sure about expenditures.

There seem to be no court tests of business political expenditures to guide business organizations, and political and government officials won't say for sure what you can do.

The best guidance available is what corporations have been doing in this field with impunity (although lack of prosecution does not necessarily imply legality) and a few decisions the courts have made with respect to charges of illegal political expenditures by unions.

Current practice indicates that corporations can do many things in the political field:

► Give workers time off to vote. Most states have laws requiring a certain amount of time from work during polling hours. More unions are trying to make Election Day a paid holiday in their labor contracts.

► Let candidates tour their plant, visit with employees. The late Sen. Robert A. Taft used plant visits effectively in his 1950 victory over organized labor opposition. Would it be a political expenditure if the candidate made a speech and the employees were paid for their time spent listening? There is no answer yet.

► Pay full salaries to employees who spend part of their time in political activity. Union staff members spend a lot of time politicking. Mr. Taft's last Senate campaign got help from management employees drawing full salary from their companies. There is a court decision holding that salary paid to a union official

The states which prohibit contributions by either corporations or unions in state elections

	CORPORATIONS	UNIONS
Alabama	✓	
Arizona	✓	
Connecticut	✓	
Florida	✓	
Georgia	✓	
Indiana	✓	✓
Iowa	✓	
Kansas	✓	
Kentucky	✓	
Louisiana	✓	
Maryland	✓	
Massachusetts	✓	
Michigan	✓	
Minnesota	✓	
Missouri	✓	
Nebraska	✓	
New Hampshire	✓	✓
New Jersey	(1)	
New York	✓	
North Carolina	✓	
North Dakota	✓	
Ohio	✓	
Oregon	(2)	
Pennsylvania	✓	✓
South Dakota	✓	
Texas	✓	✓
Utah	✓	
West Virginia	✓	
Wisconsin	✓	✓
Wyoming	✓	

(1) Insurance corporations

(2) Some corporations

Business In politics

continued

whose duties involve political activity is not an illegal political expenditure.

► Urge employees to vote without reference to political parties or candidates. Untested: Whether a corporation may safely urge employees to support a particular party or candidate. It would seem that it may, on the basis of the Supreme Court's decision in the *CIO News* case, if done through regular communication media.

The highest court said in that case that "the gravest doubt" would arise as to the constitutionality of the ban on political expenditures if it "were construed to prohibit the publication, by corporations and unions in the regular course of conducting their affairs, of periodicals advising their members, stockholders, or customers of danger or advantage to their interests from the adoption of measures, or the election to office of men espousing such measures."

In a deliberate test of the law, the CIO printed extra copies of its newspaper containing the endorsement of a candidate for Congress and distributed them in the candidate's district just before election.

Four of the Supreme Court justices felt that the ban denies the right of free speech and is therefore unconstitutional. The majority decision avoided the constitutional question, however, holding that no political expenditure was involved in what the CIO did.

► Discuss political issues in employee publications. Surveys indicate that management publications for employees are giving more space to political and legislative matters, but it is little compared with union publications, which devote about half their space to political issues.

► Testify, through corporation officials, on pending legislation and let legislators know, either in writing or by personal calls, how they feel about specific issues or things in general.

► Discuss in institutional advertising political candidacies, economic issues having a political impact, or other subjects suspected of having political overtones. Democratic leaders are watching such ads and calling them to the attention of friendly congressmen. Some examples:

An ad urging President Eisenhower to run for re-election; one on confiscatory taxes; another on taxes saved because the local independent electric company, instead of the government, is building the Hell's Canyon power project; one asserting that no American men have died in war for more than three years; one advertising that inflation has been halted and that "with government and industry pulling together, a long absent spirit of unity has been awakened."

After Mr. Taft's 1950 victory, the CIO complained at a Senate investigation about a series of "Free Enterprise" ads which ran for ten weeks during the campaign and which the CIO contended were politically inspired to help the senator win re-election. The Senate committee saw nothing wrong in the ads.

One advertisement the CIO complained about particularly was by Timken Roller Bearing Company of Canton, Ohio. The ad described a CIO Political Action Committee leader's statement, "Some day we will be able to tell the papers what to print and what not to print," as something Mussolini, Hitler or Stalin might say.

An anticommunist ad currently being published by Timken Roller Bearing says: "One way we in America can keep communists out of positions of trust is by being in those positions of trust ourselves. It means ordinary citizens getting into active politics, joining civic organizations, taking an interest in their churches, their schools."

► Educate their employees on political and economic issues through management publications, films, discussion programs and in many other ways. The Johnson & Johnson Company's Sound Government program is a good example of a political education activity.

Behind Johnson & Johnson's program, according to Chairman of the Board Robert Wood Johnson, is the belief that "we have a program of industrial democracy that makes us increasingly conscious of our ties with the corporate family to which we all belong."

"We believe that just as we work together for mutual economic benefit, so can we work together for sound government for ourselves and our children."

About 80 Johnson & Johnson employees hold elective and appointive public offices in New Jersey, Illinois,

Georgia and other states where the company has plants. About a third of these are school board members.

The Sound Government program is pretty much confined to discussion of political and economic issues by groups within the company.

► Encourage their management staff members to learn and engage in practical politics. Eighteen companies sent more than 30 men to the five-day Practical Politics Workshop recently conducted at Princeton University by the new Effective Citizens Organization.

► Keep close contact with local officials, legislators and others empowered to make decisions affecting the corporation's welfare, keeping informed on community issues and problems and keeping officials informed of the business viewpoint. This is a vital part of General Electric Company's community relations program.

General Electric makes it an important job of plant managers to do their part in improving the general business climate in communities where they operate.

Former GE President Charles E. Wilson says: "Every man in business, whether he be the general manager of a company or the newest employe, today has the clear obligation to extend his labors, protect his true interests, and project his reasonable convictions in the field of direct political action. If he does not do so, he is foolish, incompetent and lazy."

A management organization has been advised by its attorney that, in the light of court decisions in the labor union cases, a corporation may buy radio or TV time or advertising space in publications to present its political views. The attorney said:

"The line may be difficult to draw, but my best judgment is that a corporation or labor union may engage in political activities the same as any citizen may, so long as its activities and accompanying expenditures are, so to speak, its own; but that it is illegal to contribute money or other things of value to an outside organization or committee for similar purposes, or to a candidate."

The advice did not take into consideration the tax consequences or possible stockholder suits.

The Supreme Court may clear up next session the question of expenditures for political broadcasts. It will hear arguments in the fall concerning \$5,985 which the United Automobile Workers admitted spending from its treasury for nine TV broadcasts supporting candidates for Congress two years ago. A district court dismissed the indictment of the union on charges of illegal political expenditures under the Corrupt Practices Act on the ground that the expenditures cited were not prohibited. The government appealed directly to the Supreme Court. A decision will come too late to have any bearing in this year's elections, however.

Business organizations are playing a big part in giving leadership to the increased participation in politics.

The Effective Citizens Organization was formed by a group of businessmen with the purpose of working with community groups and educational institutions and others to encourage individuals to participate in government.

The Princeton workshop will be followed by others—at Southern Methodist University in the Southwest and Michigan State University in the Midwest.

ECO is stimulating local chapters of individuals from business, industry, the professions and schools—all dedicated to improving the degree and quality of political participation and political education. Most advanced local groups are in Syracuse, N. Y.; Flint, Mich.; Dallas, Tex., and northern New Jersey.

Chambers of commerce and other business associations are conducting campaigns to get potential voters registered and to the polls on Election Day. They are using a six-step guide, "Here's How to Get Out Your Vote," issued by the Chamber of Commerce of the United States.

"Businessmen cannot expect a good climate of government unless they take a direct hand in selecting those who make and administer government policy," the National Chamber's guide points out. "With the impact of that policy being felt strongly in every community today, business and professional people simply cannot afford to bring up the rear in this year's march to the polls."

Recent experience in New York shows the importance of each individual's vote and getting voters to the polls.

Although President Eisenhower carried New York by more than 848,000 votes in 1952, his party lost the governorship to the Democrats in 1954 by 11,125 votes, or an average of less than one vote in each of the approximately 12,000 voting precincts. Republicans would have carried the state if one more Republican vote had been cast in each precinct or if one Democratic voter in half the precincts had cast a Republican ballot instead.

Republicans seem to have suffered most by the large number of stay-at-home voters in New York. From 1952 to 1954 the Republican vote dropped 1,465,500, while the Democrats lost only 543,000 votes.

Republicans say similar analyses of the voting in 19 districts in which Republican congressmen were defeated last time indicates the defeats were due largely to failure of persons who voted Republican in 1952 to show up at the polls two years later.

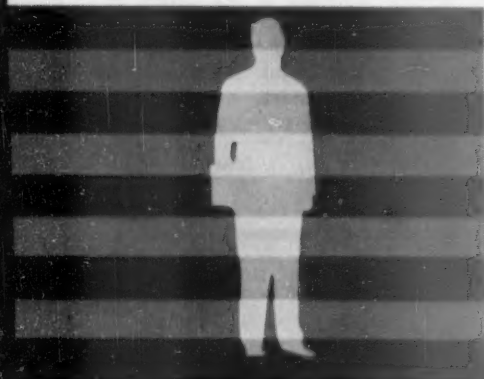
Republicans and Democrats alike are assessing the situation in 95 marginal districts in which 63 Republican and 32 Democratic

(Continued on page 72)

“
Businessmen cannot
expect a good climate
of government unless
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make and administer
government policy
”

ways to measure your managers

Three current trends now make good executive appraisals important to the future of your business



PROGRESSIVE business firms are seeking new information on the latest and most effective ways of appraising executive accomplishment. Their interest has been enlarged by three current trends:

1. Executive incentive plans are growing. Half the companies listed on the New York Stock Exchange have executive bonus plans; the number using this incentive device has doubled in the past decade.
2. Business is in the midst of an executive shortage and is forced to use the executive talent it has to the fullest possible extent. Good appraisal helps a firm find the best-qualified man to fill a position and use him most effectively.
3. The increase of competition has caused alert managements to re-examine the methods used to judge

the quality of their executive personnel.

The importance of expert selection is illustrated by the experience of one large manufacturing firm which appointed three successive sales vice presidents in six years. Two were fired; the third, who had twice been passed over for the job, has since revitalized the sales organization and sharply increased its volume.

The problem of selecting the right man for such a job is always tough. However, a careful study of the records of all three men would have shown clearly the superior leadership and business aggressiveness of the third candidate. Yet the president chose to ignore these facts and rely on his personal opinion rather than on what the men had accomplished.

The firm's bankers say the failure of his judgment set the company back five years.

No business can afford to make such errors.

Also drawing increased business attention to appraisal systems is a growing appreciation of the fact that the incentive bonus, properly used, is one of the most powerful means of vitalizing executive performance.

Kenneth P. Mages, partner in Touche, Niven, Bailey and Smart, a nationwide firm of certified public accountants, says that his firm has four times as many requests from clients to set up bonus rating systems as it had five years ago. This is especially true of stock options and other forms of deferred compensation.

The effectiveness of bonus systems in developing profit-oriented executives has been dramatically demonstrated by the net income figures of such users as General Motors and du Pont.

Until very recently, management looked on bonuses mainly as a convenient means of providing extra compensation for executives. This usually resulted in profit-sharing

plans, with bonus payments made in direct proportion to salary. When this is done, the best performers are inadequately rewarded and the poor ones get more than they deserve. Improvements in accounting systems have made it easier to calculate bonuses on the basis of actual accomplishment.

Some firms have initiated their executive appraisal systems mainly with an eye on bonus calculation; others have originated them to improve their executive selection and training.

Where appraisal information is used to calculate bonuses, the stress tends to be laid on performance. In appraisals for executive development, personal characteristics, potential and long-term accomplishments are also considered.

Some specialists maintain that the two systems dovetail.

"In any rating system that's worth anything," contends Richard M. Paget, of Cresap, McCormick and Paget, management consultants, "you have to judge a man on his long-term contribution. In our firm, we use the same system for bonus calculation and executive development."

"We rate our men on all the personal characteristics that bear on the job—judgment, intelligence, integrity and other intangibles that affect potential."

Other specialists contend that bonus appraisal and executive appraisal must be handled separately. Most, however, agree that when you get into this area there is a good deal of overlap.

"A good many companies approach appraisal for compensation quite differently than they do for training and development," says Robert Stolz of McKinsey and Co., management consultants. "But in the final analysis, one can't divorce them completely. For example, the information on how well a man performs, gathered for compensation purposes, is essential to an analysis

of his training and development needs."

Practices vary widely from company to company, but a survey of methods used by leading firms in developing criteria for both purposes has yielded the following nine rules for good executive appraisal:

1. Be analytical

Anyone can improve his off-the-cuff opinions on a subordinate's performance by thinking through carefully how well a man performs each element of his job. Here is a good step-by-step procedure:

- a. Start off by asking what results you expect from the job.
- b. List the critical requirements of the job in order of their importance.
- c. Rate your man in terms of how well he performs these critical requirements.

In addition to dollar budgets provided by the accounting department, some companies have been experimenting with what might be called annual work programs for budgeting executive performance. The work program forces management to plan both company and individual objectives in fairly specific terms at the beginning of the year. Then, at the end of the year, it permits a review of the effectiveness with which individual executives have accomplished what they set out to do.

The programmed approach is particularly helpful where staff jobs are concerned.

"It is perhaps symptomatic of the problem involved in the staff group that most appraisal efforts use cash budgets as criteria," says Arch Patton, an executive compensation specialist, writing in *The Controller*.



Analyze how a man handles all elements of his job

"Yet dollar outlays are among the least important performance yardsticks that can be chosen. In staff positions, it is the results that count, not the fact that the budget is \$400,000."

"But if an engineering department, for example, is given such objectives as developing new products, improving old products, perfecting new processes and the like," Mr. Patton explains, "then performance can be rated on tangible accomplishments. The ability to judge results in terms of the responsibilities with which an executive is charged makes the difference between a successful and an unsuccessful incentive plan."

"You can also apply work programming in sales," says management consultant Paget. For a district sales manager, these objectives could be listed:

- a. Improved training of salesmen.
- b. Better expense performance.
- c. Lower turnover of salesmen.
- d. More effective mix of products to be sold.
- e. Increased accounts.
- f. Introduction of new items.

2. Get two or more opinions

The major weakness of any appraisal system is the tendency for bias on the part of the rater. One of the most effective ways to counteract this is to have two persons rate the performer.

In most companies, this would mean that the rater's immediate superior would also rate the subordinate. It's true that the rater's superior may not be too familiar with the subordinate's job performance. But he can still raise enough questions to spot bias on the part of the rater.

A variation of this technique is what is called group appraisal. This brings together several people who have the opportunity to observe the man being rated. Oral discussion among the raters proves exceedingly valuable in airing all possible angles. In some companies, a review committee checks on the group's appraisal.

3. Consider long-range contribution

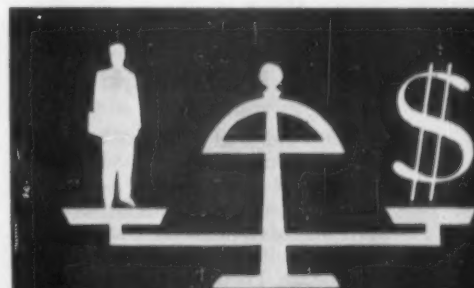
Where the rater depends on memory, the tendency is to remember what happened in the most recent weeks and forget incidents, sometimes extremely important, that took place earlier. To guard against this, some companies use what is some-

times known as the dossier system. It can be as simple as this: a file in which the superior keeps notes on the key contributions each subordinate makes in the course of the year. At the end of the year, he assembles the notes in chronological order and, presto, he has a record of performance on which to base a reliable judgment.

Your long-range program is an important part of performance. What the individual does to maintain and build the health of the business is as important as the immediate operating results he achieves. So, when you set up the critical requirements of the job, be sure your list includes long-range requirements, too.

One electrical manufacturer rated the plant superintendents on these points alone:

- a. Cost performance.
- b. Ability to adhere to agreed-upon production schedules.
- c. Product quality performance.



Scale of rewards for various levels of performance should be clear-cut

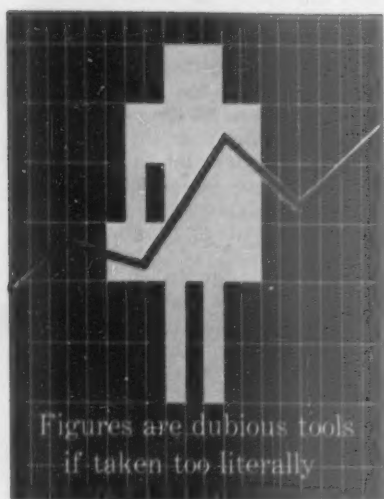
Company officials soon became convinced that they were getting a false result because they were not rating what the individual did to preserve the future of the business. So, to rate the complete job, they added these new factors:

- d. Training and development of factory supervisors.
- e. Maintenance of sound labor relations.
- f. Ability to develop new production procedures and facilities.

The addition of these factors changed the rating results considerably and management became convinced that they were getting a more complete and accurate picture.

4. Beware of pat formulas

Collect all the operating data you



9 ways to measure your managers

can as a guide to judgment but don't try to use any one criterion as a measure of achievement.

One company formerly used return on investment as a measure of the performance of its different departments. Then the company found out that some of its department managers, to improve their performance on paper, reduced their capital investment by buying part of their product instead of manufacturing it, even though it was more profitable to manufacture it.

Another company was evaluating department heads on the basis of their ability to live within a budget. There was a penalty for going over the budget and a reward for coming under it. Analysis showed that one man who had gone over the budget had turned in an excellent performance. Another man, who had gone under the budget, had not only cut off the fat but had cut off some of the muscle as well.

Nevertheless, the search for quantitative measurements of performance continues. There is no doubt that factual operating data—sales, profits, costs, operating ratios and the like—provide valuable indications of how well men in key positions have performed, as long as the company doesn't use such data on a formula basis. This is particularly true of full-profit positions, such as the managers of make-and-sell divisions in a large decentralized com-

pany. Return on invested capital, market penetration, and other factors which can be measured statistically—as well as those which must be rated on the basis of judgment—offer a sound method of appraising managers in such full-profit positions.

However, there are comparatively few full-profit positions. Still most businesses have what might be called cost and income jobs—primarily manufacturing and selling positions—for which carefully developed budgets based on planned sales or manufacturing cost variances offer quantitative targets that provide reasonable performance criteria.

But even though a good deal of quantitative information on operations is available, experts urge that it be used as a guide to judgment and not be set up into a formula that purports to substitute for judgment. In other departments less concerned with profits—personnel, research, engineering and the like—business is learning to rely essentially on sound judgment to obtain its ratings.

About three years ago, the General Electric Company set up an extensive research project to find out how to measure the progress of its departments. Company officials wound up with a list of eight factors. On four, they could gather statistics. On four, they had to use judgment. Now they have adopted a method of using statistics as a guide to judgment.

5. Watch out for booby traps in numerical scoring

Some companies have tried to do all their rating with systems of statistics. They list factors of job performance to be evaluated and weight the factors in terms of importance. Then, in rating a given individual, the rater assigns a numerical score to each factor. The total score is the sum of the scores on individual factors and is supposed to be representative of total job performance.

But judgment enters into the selection of factors, their weighting, and the like. Thus, taken too literally, the whole system of statistical rating is a dubious tool. Further, since different raters have varying standards, it is exceedingly difficult to equate the scores of one rater to those of another.

Unfortunately, numerical scoring has a misleading aura of scientific accuracy. Company executives tend to forget the wide margin of possible error in their systems, apply them too literally, and work injustices on their men.

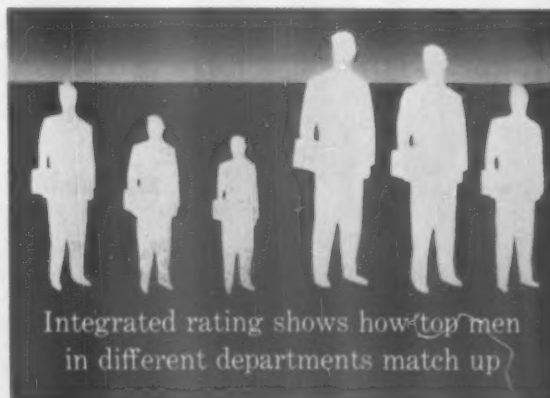
6. Integrate rating results from different divisions on a "bench-mark" basis

Let's say the raters are heads of Division A and Division B—who report to a common superior. Each of them lists the performance of his department chiefs according to the quality of their performance. Then their superior approves the list.

The next step is to bring the lists together on a bench-mark basis. Then try to equate the top man in Department A to one of the top men in Department B. It may turn out that the top man in Department A is on a par with the third man in Department B, just as the top team in the National League might rank with the third or fourth in the American. Next step is to do the same with the men at the bottom. Then equate the others in between. This process should be continued throughout the entire company.

7. Have a clear-cut plan for recognizing accomplishment

When a company decides to use an appraisal system as a means of distributing an incentive bonus, the first step is to set up a clear-cut bonus distribution policy. Once the size of the bonus kitty has been determined, management can decide how much should be paid for out-



standing performance, how much for average performance, and how much for less than average at the various salary levels.

Assume for purposes of discussion that the money available in the bonus kitty is 25 per cent of profits. The first problem is to determine how much bonus the top performers should get. Let's say you decide that the top three should get 50 per cent of their salaries. The next step is to decide how much you're going to give the three men at the bottom. Let's say you decide it's going to be ten per cent. Then it's simply a matter of rating the men in between and calculating their bonuses on a proportionate scale.

"Try to keep away from a numerical scoring system and rate on a basis of comparative performance with the top and bottom men as the two extreme points to work from," one management expert urges. "Then convert directly into percentages and money."

8. Discuss appraisal with man being rated

"When you've developed a plan which stimulates the characteristics you wish to stimulate and have gone as far as you can in terms of being concrete; when you have rated people in terms of performance, probably the most important step is what you do with it," says Mr. Paget. "This is where a lot of rating plans fall on their heads."

He and others in his company make it a practice to talk with the man being rated at the time the bonus checks are passed out and explain to him why his check is a fat one—or why it isn't so fat.

Unless the raters make a practice of discussing with each executive the results of the year's appraisal, they miss a wonderful opportunity to go over with him:

- a. What he has done.
- b. Where he has performed in an outstanding way.

GUIDES TO EXECUTIVE APPRAISALS

1. Be analytical
2. Get two or more opinions
3. Consider long-range contribution
4. Beware of pat formulas
5. Watch for booby traps in numerical scoring
6. Integrate rating results from different departments
7. Have a plan for recognizing accomplishment
8. Discuss appraisal with man being rated
9. Don't look for easy answers

- c. What he can do to improve himself.

This last is the most important. It offers an opportunity to try to correct a man's deficiencies instead of letting them pile up to the point where you have to fire him.

"The whole procedure has to be formalized," says Mr. Paget. "Otherwise this review just doesn't happen. The final step is for the reviewer to make a written report of the interview to get it on the record."

9. Don't look for easy answers

The good rating of performance depends on good judgment and common sense plus a well-thought-out procedure for analyzing job requirements and performance. Success does not depend on great advances in technique. The search for the ideal system is like searching for a pot of gold at the end of a rainbow. Success in this particular case depends on finding a system that's cut

to fit, applying it intelligently, and working hard at making it function.

Executive appraisal will be one of the most important business developments of the next few years, says the management experts, because:

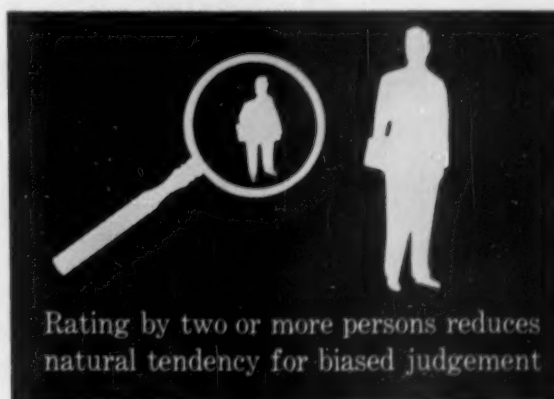
a. Bonus plans supply great motivation, and good appraisal is at the heart of a good bonus plan.

b. Good executives are expected to get scarcer instead of more plentiful and the businesses that make the most money will be the ones that make the best use of the ones they have.

c. The successful companies will be the ones that do the best job of identifying and developing the men with the best executive talents.

—PHILIP GUSTAFSON

REPRINTS of "Nine Ways to Measure Your Managers" may be obtained for five cents a copy or \$4.50 per 100, including postage, from *Nation's Business*, Washington 6, D.C.



NEW ROADS: *changed business pattern ahead*

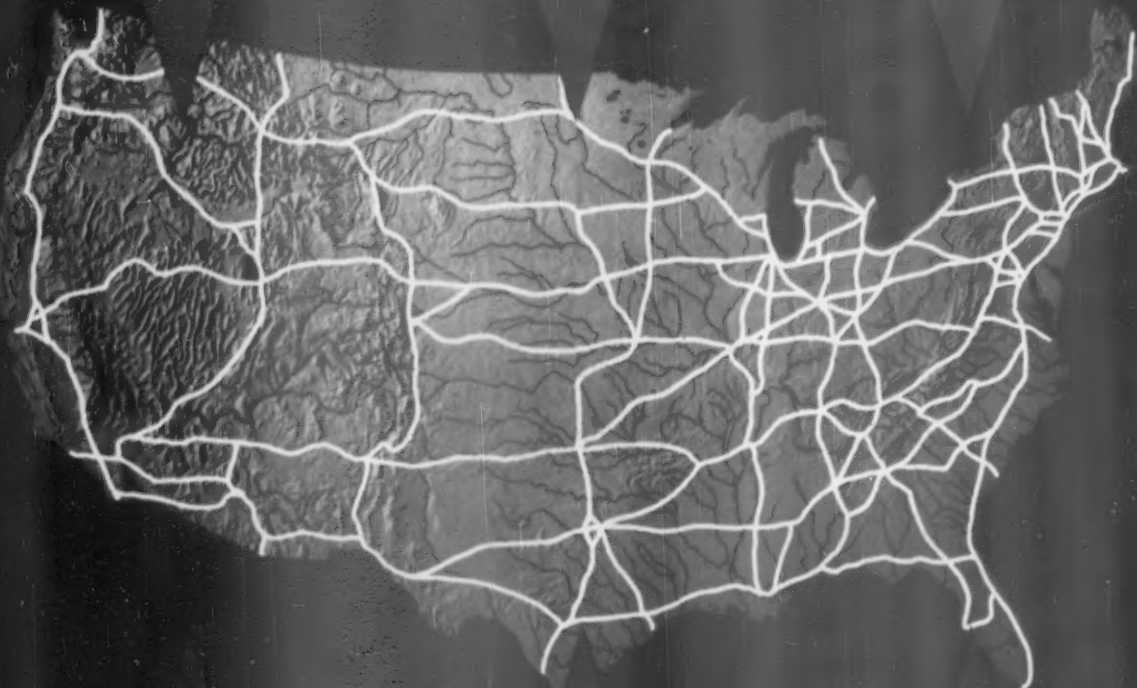
History's biggest public works program is to start soon. What will the new roads mean to you?

BURFAX MAP © GEOGRAPHICAL PROJECTS, INC.

*Short trips will make
up 98 per cent of traffic;
tourist travel 2 per cent*

*Number of road workers,
now 220,000, may reach
500,000 by 1960*

*Only 10,000 of new
system's 40,000 miles
will use old roadbed*



*Old highways, in many
cases, will be service
roads for new system*

*Average motorist will
pay \$8.60 in new taxes,
save up to \$94 a year*

*Increased travel will
mean new opportunities
for business growth*

A CEREMONIAL shovelful of dirt to be turned soon somewhere in the United States will have a special meaning for businessmen, farmers, engineers, city and state officials and other citizens. The ceremony will launch the biggest public works program in history—the mammoth new interstate highway system.

The event could occur in Missouri, Illinois, New York, Texas or California—they're all competing for the honor. Wherever it occurs, it will herald a new era.

The interstate system, authorized by Congress this spring, calls for a network of highways totaling 40,000 to 42,500 miles. They will nearly all be of high-speed, four-to-eight-lane construction, with limited entrance and exit. The network will crisscross the nation, linking just about every city of more than 50,000. When finished, it will constitute only 1.2 per cent of the country's total highway mileage, but it will carry close to 25 per cent of the total highway traffic.

Because of the complexity of planning and building a modern highway, because the program is starting practically from scratch, because more than half the money will be spent on especially complicated urban projects—for these and other reasons it is going to take many months to get the program into high gear. It is hoped, however, that some sections of the new system can be opened within two or three years and that by 1970 the job will be substantially completed.

A price tag of about \$27,000,000,000 has been put on the interstate system. The federal government will put up \$25,000,000,000 and the states will put up the balance on a 90-10 matching basis. While the interstate system is being built, federal and state spending on the regular primary and secondary road systems will be stepped up on a 50-50 matching basis.

The federal share of the highway program is to be financed by raising federal taxes, effective July 1, on gasoline and diesel fuel, tires and retread material, and trucks and buses, and by earmarking for the roads program the revenue from nearly all such taxes. Congress has decided that the increased taxes shall remain in effect for 16 years, during which time they will bring in \$14,500,000,000 more than existing revenues.

The general outlines of the interstate network have been laid out, but specific routes have been selected for only about 11,000 miles. Federal officials believe that fewer than 10,000 miles of the ultimate system will use present roadbeds; the balance will be built from scratch over newly purchased rights-of-way. So far, rights-of-way have been acquired and detailed plans drawn for only a minute part of the total mileage.

During the next several years, residents of areas affected by the interstate system—which means virtually every population center in the country—can expect to hear long, loud debate over location of the new roads, purchase of rights-of-way, financing the state and local shares of the costs, the pros and cons of limiting access to the new highways, and so on. Also, motorists and businessmen, particularly in the cities where the system will bring new thoroughways, can expect to go through a period of detours and other construction nuisances.

While the new program is important to every citizen, it means different things to different people. Here is what it means to some major groups:

MOTORISTS

Two out of every three American families have cars—a total registration of 62,000,000. These cars are driven an average of 9,400 miles a year each. Their number increases each year, and within ten years registrations are expected to hit 85,000,000.

This ever growing stream of cars is straining the nation's present highway system to the point where

tremendous losses in life, property and time—not to mention temper—are chalked up every year. The interstate system represents the first realistic attempt to reverse this trend.

To finance the new roads, the average motorist will pay an additional \$8.60 annually in federal excise taxes, mostly the result of the one-cent-a-gallon gasoline tax increase. In addition, he may have to pay some additional state and local taxes as those governments try to pay their part of the highway bill. But, in return for these higher tax payments, the motorist will get a highway system which, say the experts, in urban areas will cut driving time and operating costs in half and be twice as safe. In rural areas it will save less time and operating costs but will be four times as safe.

The long-distance motorist will find that he can bypass or traverse at 40 to 50 miles an hour cities he once crept through at an exasperating, stop-and-start ten to 20 miles an hour. He'll find himself able to travel farther and faster on his business and vacation trips. According to the American Automobile Association, time savings like these will be typical: The 671 mile trip from Richmond, Va., to Jacksonville, Fla., will take 13½ hours instead of 17. The 369 miles from Houston to New Orleans will be cut from 9¼ to 7½ hours. An hour and a half will be shaved from the present 6¾ hours for the 255 miles from Minneapolis to Des Moines. And the 188 miles from New York to Baltimore will be cut from 4¼ to 3¾ hours.

For city workers and shoppers, the urban sections of the interstate system will provide quicker, safer travel between downtown commercial and business sections and suburban areas.





The federal Bureau of Public Roads figures that the dollar-and-cents savings to the motorist resulting from the new system will average about one cent a mile—mostly due to the elimination of urban stop-start driving. This penny a mile means an annual saving of \$94 on the 9,400 miles the average motorist drives. There will be few drivers who won't get a substantial return on their \$8.60 in additional taxes if the predictions hold true.

Even more important than the saving in time and money will be the saving in lives. Figures show that the traffic toll to date is twice the total battle deaths in all our wars and that 40,000 people will be killed on the roads this year.

Secret of the safety that will be built into the interstate system is controlled access, the limiting of entrances into and exits from the new highways. Congress wrote controlled access firmly into the law under which the system is to be built.

Highway engineers say a chief cause of accidents—as well as the chief reason for slower movement of traffic on today's highways—is the indiscriminate entry and departure of vehicles. The combination of frequent intersecting side roads and roadside facilities make the average busy highway a succession of hazards. Traffic crossing the interstate system will be handled on overpasses and underpasses. Cars, trucks and buses will enter and leave only at clover-leaves, ramps or other well designed interchanges except in a few sparsely settled areas. Owners or tenants of property bordering the new highways will be barred from direct access. Restaurants, gas stations, motels or other services will be barred from the right of way and will be available only on so-called service or feeder roads.

The engineers can cite impressive figures demonstrating that controlled access means more safety. They can show that existing highways with full control of access have only one third to one half as many accidents and fatalities (Continued on page 92)

Why does a firm  build to suit its needs,
   sell building, lease it back for 25 years?

LEASE-BACK FREES OPERATING CAPITAL

Business technique is advantageous to the investor and to the operating company. Here's how it works

AN IMPORTANT, and still little understood, new business technique developed since the close of World War II is known as the "Lease-Back."

Broadly speaking, a lease-back occurs when some business corporation has some new stores or maybe warehouses or operational equipment built to its specifications and then sells these assets to a large investor, or a syndicate of investors, after agreeing to lease them back for a specified period—usually long term. It does this rather than maintain ownership of the properties.

Corporations employing the lease-back technique range from Gerber's Baby Food to General Motors and include most of the big food, drug, notion store and service station chains. Other lease-back advocates are General Electric, IBM, Sears Roebuck, Western Union, Montgomery-Ward, Borden and various large department stores and office buildings. Dominion Stores, Ltd., a Canadian food chain, sells and leases back its stores in places as far north as Timmins, in the heart of the gold fields in north central Ontario.

There has been little writing or public discussion on the subject, although some authorities have called the lease-back "the most noteworthy financial device of the present century." Churchill Rodgers, general counsel for the Metropolitan Life Insurance Company, and an authority on the subject, has said that lease-backs produce the best returns of any type of investment that insurance companies are allowed by law to hold.

Within the past ten years, billions of dollars have been invested in lease-back deals on properties ranging from railway locomotives to milk bars. Under recently passed legislation, even the United States government is giving the lease-back system a try through leasing a few of its office buildings and post offices. But the big field for lease-backs is in private real estate.

Every year since the end of the war an average of about 1,000,000 new homes, each housing an average family of three and a half persons, has been erected in the U. S., principally in the suburbs. The immense building program of food and drug stores, service stations and other types of shops and services upon which these communities depend probably could not have been financed without the lease-back system. A chain of supermarkets, for example, that attempted to finance and keep possession of its own stores in a \$500,000,000 expansion program would soon find itself more in the

real estate than in the food business.

Thus far, investments in lease-backs have been mainly by insurance companies, college endowment, pension and trust funds, church organizations, a few banks, several hundred wealthy private investors and a handful of broker-operators. (A broker, incidentally, who ordinarily negotiates a real estate deal and collects a commission, becomes an operator when he occasionally puts his own money into some of these transactions.)

The man who probably does the biggest business (and is also the most spectacular character) of the broker-operator group in the lease-back field is a 43-year-old New Yorker named Sidney M. Barton. He is a tall, relaxed-looking man with high cheek bones, a strong chin, curly, graying hair that he parts in the middle, a sinus condition and perhaps one of the sharpest minds in real estate today.

Seven years ago Mr. Barton knew nothing about real estate and was broke. He got into the lease-back field just as it was shifting into high gear. He stuck with it, and has developed financially with the great lease-back trend.

Since 1949 Mr. Barton has negotiated \$275,000,000 worth of lease-back deals. He has a suite of offices filled with fine prints and *objets d'art*, a black limousine in which he attends theater first nights, and a stable of race horses that was the leading money winner at the last

racing meeting at Florida's Gulfstream Park.

Yet Mr. Barton is still not satisfied, either with the size of his fortune or the general understanding and popularity of lease-back. He has a sort of informal personal goal to make \$50,000,000, and he hasn't done that yet. He is worth only about \$15,000,000 or \$20,000,000 to date. He also feels that the lease-back system is used by not more than 20 per cent of American business that could employ it advantageously. He says that more and more businesses will take it up as presidents and treasurers of firms become educated as to what lease-backs are all about.

Furthermore, he has been giving thought lately as to how the relatively small investor may be given a chance to participate in this financial innovation.

"From the investor's standpoint," Mr. Barton said recently, "a lease-back is safer than a bond and more remunerative. Besides a firm's promise to pay, a lease-back holder's investment is backed by real estate with its depreciation factor. The lease-back, however, does not have

the flexibility of a bond. Bonds are available in units of \$1,000 so that the small investor may buy them. Until now usually the smallest amount an individual has been able to put into a lease-back is \$50,000 to \$100,000. It has been strictly a rich man's field as far as private investors are concerned.

"Nobody," he went on, "has made room yet for the small investor in lease-backs. I certainly don't need any more investors. I have more now than I can use. I need more deals, more merchandise. But it seems to me that the small investor should be given a chance to get into this extremely safe, relatively high return field of investment. The lease-back brings a return of from five to ten per cent a year, depending upon the lessee-company's credit.

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According to Mr. Barton, one of the simplest types of lease-back plans is that employed by Safeway Stores, Inc., which began to use the system in a modest way in the latter 1930's. Safeway, generally regarded as the big pioneer in that field, is reported to have sold and leased back \$350,000,000 to \$400,000,000 worth of store and warehouse properties over the years.

Safeway lease-backs work like this: If the company decides to build some supermarkets, it will pass the word to half a dozen brokers. They will contact insurance companies, investment houses or syndicates of investors in search of a group willing to buy the properties at terms satisfactory to Safeway.





The food chain then builds the types of stores it wants, sells them at cost to the successful bidder and leases them back for 25 years at, say, 6.85 per cent of the purchase price, paid each year as rent. The food concern has an option to renew the lease after 25 years at somewhat

(Continued on page 48)

BIGGEST BROKER-OPERATOR, Sidney M. Barton (left), and his associate, secretary, and stenographer, have handled lease-back deals worth \$275,000,000 in past seven years

ROBERT B. GOODMAN—BLACK STAR



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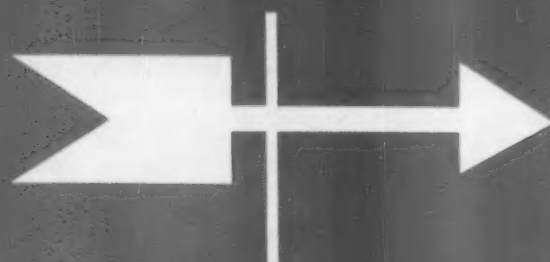
(Continued on page 48)

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ROBERT B. GOODMAN-BLACK STAR



BUSINESS GUIDES CAN SHARPEN YOUR OUTLOOK



Gross National Product
Personal Income
Index of Industrial Production
Expenditures for New Plant
& Equipment
Employment
Average Weekly Hours
Construction
Housing Starts
Consumer Price Index
Wholesale Price Index
Manufacturers' Sales
Retail Sales
Bank Loans

Basic economic indicators sound self-explanatory but are not. Here's a description of the make-up, uses, drawbacks of these vital tools

TODAY'S businessman knows he shouldn't make major business decisions without consulting certain economic guides.

Gross national product, index of industrial production, manufacturers' inventories, expenditures on new plant and equipment, and a wide variety of other economic barometers have become basic to important government and business judgments. They indicate the health of the economy and of its individual segments. They permit estimates of future price and production trends, and tell the businessman how his firm is doing in relation to other firms in his industry and to the economy generally. They've become a vital tool in calculating wage boosts, plant expansion, new sales patterns.

Some of these indicators move up and down ahead of movements in the general economy and so are particularly good for forecasting trends. Others, moving in step with the economy or even lagging behind, are valuable for key analyses of what the economy has been doing and is doing at the moment.

Most of these economic tools have names that sound self-explanatory, but they are not. They do not tell exactly what these indicators mean, how they're put together, how they should be used, what their shortcomings are.

Here is a score card for following the economic game—a description of the make-up, uses and drawbacks of some basic economic indicators. Twelve different economists would compile 12 different lists of the best indicators, but the following are the ones that would turn up most frequently.

Gross National Product

GNP, as it is popularly called, is the most comprehensive measure available of total economic activity. It's the best place to take a quick look to see where the economy as a

whole now stands. Issued every three months by the Department of Commerce, it reports the total national output of goods and services in terms of the current-value dollars spent to acquire these goods and services. Four main figures make up GNP:

- ▶ Spending by all individual consumers for all types of goods and services.
- ▶ Federal, state and local government spending on all types of goods and services.
- ▶ Domestic investment in new construction, producers' durable equipment, and business inventories.
- ▶ The net balance or debit in United States transactions with foreign countries.

To build up these figures, Commerce Department economists evaluate, adjust and piece together hundreds of bits of statistical information supplied by a dozen federal agencies and many private groups.

GNP is used primarily to show quickly whether the economy expanded or contracted in the previous quarter, the rate of change, and the changes in the major components of total U. S. output. Thus it reveals the current state of the nation's basic economic health. GNP and its components are constantly watched by government policy-makers for clues as to whether the economy is showing signs of strength or weakness. It is an important factor in congressional and administration decisions on economic matters.

Business policy-makers study GNP for similar purposes. GNP trends are frequently an important element in business decisions on long-range capital investment. Many industries and companies have found direct relationship between changes in the GNP and their own sales charts, and use GNP changes to check whether their own progress is satisfactory. Often, of course, one of

the four major components of GNP has special significance for one industry or firm, and the figure for that component, made available at the same time as the over-all GNP, is noted and used.

A major drawback in the usefulness of GNP is that it is available only quarterly. Still another limitation is the fact that it is stated in current dollars, and therefore does not provide a true measure of actual production changes in periods when prices are moving rapidly.

Personal Income

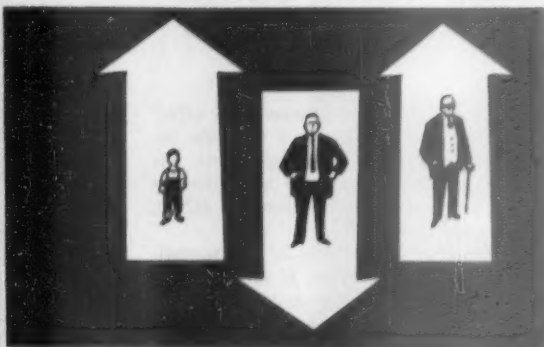
This Commerce Department figure, put together from a half dozen reports of other federal agencies, is one of the major monthly checks on the health of the national economy. The figure covers all income currently received by individuals, unincorporated businesses and non-profit institutions. It includes wages, salaries, proprietors' income, social security and pension payments, relief payments, and dividends, interest or rents received by individuals. It does not include capital gains and losses, nor certain income retained by corporations.

The personal income figure is a broad monthly indicator of whether spending power is holding up, and thus of whether the economy is holding up and continuing to grow at a satisfactory rate. Since most income comes from production activity, it is indirectly some indicator of whether production is holding up. Individual companies or industries check it to determine whether their sales are increasing in proportion to the increase in personal income.

Personal income is not a forecasting indicator—it shows where the economy is and has been rather than where it is going. This is because much of the income received today is tied to business decisions made days or weeks or months earlier—for example, long-term wage con-

(Continued on page 82)

Population **mix** will change your business



Coming shift in size of age groups promises problems for all segments of economy, often in unforeseen ways

CHANGES in the size of different age groups will mean new problems for U. S. business.

The main population shifts:

Both the number and proportion of young people and old people will increase. The number in the productive middle-age group will increase but the proportion will decline.

Every phase of the economy will feel the impact, including: housing demand, wage negotiations, sources of investment, employment practices, needs of education, marriage rates, death rates, hours of work, the demand for credit, community planning, need for hospitals and medical care.

The changing complexion of the nation's population will likely affect the economy in many unexpected ways. An analysis of each age group and its potential problems for business shows why this is true.

Young people

The number of persons between the ages of 18 and 24 will increase about one third from 1955 to 1965 and about three fourths by 1975. The short-range impact of this rise may differ considerably from the long-range effect. The difference will be especially noticeable in the fields of housing and household formation.

Though the number of women 20-24, considered the most customary marriage ages, will grow in the next 20 years, the number of mar-

riages will hold below previous peaks for at least a decade.

Women aged 20-24 will number 5,600,000 in 1960, compared with 5,400,000 in 1955. The number will rise to 6,700,000 in 1965; 8,500,000 in 1970 and 9,500,000 in 1975. But statisticians can't predict women or marriages on figures alone. The upswing in marriages after 1940 occurred while the number of marriage-age women was falling. There were 500,000 more women in the 20-24 eligible bracket in 1940 than in 1955.

Marriages increased during that 15-year span because a bigger proportion of women of all ages were getting married. For instance, 17 per cent of the girls from 15 to 19 were saying wedding vows in 1950, compared with less than 12 per cent in 1940.

By 1955, more than 69 per cent of women 20-24 were married. Only a little more than 51 per cent of them had spouses in 1940. Nearly 89 per cent of all women aged 30 to 34 were married by 1955.

So a large group of girls who will be moving into and through the most marriageable age bracket between now and 1960 or 1965 already have husbands. Allowing for remarriage of widows and divorcees, along with the capitulation of a few holdouts, it still does not seem likely that marriages in the 20-24 group could rise much more than six per cent in the next 20 years as against the 35

per cent rise in the past 15 years. In the 30-34 group the rise might be two per cent, against ten per cent in the past 15 years.

Thus any boom in household formation through marriage will have to wait until girls now in pigtails grow to marriageable age. This should happen sometime between 1960 and 1965. At that time the number of marriages should begin to rise. In the meantime, businesses that make products and provide services for the marrying set should feel the effects of the wedding slack.

Whether the number of births also will rise is less certain.

The birth rate is somewhat more erratic than the marriage rate. But if prosperity continues, and the desire for second and third children does not diminish, the number of births will go up appreciably after 1965. However, it will not rise as much as it did from 1933 to 1943—to say nothing of 1953. The birth peak before World War II was reached in 1921, at nearly 3,000,000. The number dropped steadily through the '20's, and industry adjusted to the drop. It hit a low of less than 2,300,000 in 1933. By 1942, the number was back to the 1921 level, and by 1954 was a third above it. The years 1965 through 1970 probably will not see a level of births a third larger than the current figure. But it will see a sizable increase.

This, of course, will be followed by another round of school building,

another increase in the output of children's toys, food, and clothes. The conventional market changes will occur from this phenomenon.

Since the number of young people between the ages of 18 and 24 will increase about a third from 1955 to 1965, and about 75 per cent by 1975, the number of potential college students will increase. The rise in the young group is the heaviest increase since a college education became important for other than lawyers, doctors, teachers, clergymen, scientists and engineers.

If the proportion of the population reaching 18 which enters college increases, college enrollment will rise more than 75 per cent in the next 20 years. It might more than double.

However, this should put no particular strain on the economy. If the economy as a whole grows about 3½ per cent per year, compounded annually, it will double in 20 years. If the college population should double rather than go up only 75 per cent, it still should not require an appreciably higher proportion of the national income to support this enrollment than is required to support the present college youth. Expenditures for housing, roads, food and other items grow at a three to four per cent rate per year.

A similar increase in expenditures for higher education can be taken in stride.

Housing is another field in which the impact of the growing number of young people will change over the years.

The demand for additional housing is likely to fall off in the years immediately ahead. The decline in the number of marriages is only partly responsible.

Equally important is the fact that household formation by other means than marriage also seems near the saturation point.

From 1950 to 1955, the total number of occupied housing units increased by 4,200,000. Some 2,200,000 comprised married couples; 2,000,000 were other household formations.

A large part of married couples' demand for housing came as a result of "undoubling." In 1947 about nine per cent of married couples were residing with other people. In 1955, less than four per cent were. This is an almost irreducible minimum. It includes elderly couples, disabled or sick couples and newly married couples who are waiting for a few months before selecting a home for themselves. The housing market cannot grow much in the future as a result of further undoubling of married couples.

As for the increase of other households, 47 per cent of it came because other-than-married units were able to set up housekeeping for themselves. More than 70 per cent of the widows and divorced women, aged 20 to 74, and of single women 25-74 were occupying quarters of their own by 1955. The proportion increased more than one eighth from 1950 to 1955. It may increase by another one sixth in the next 20 years. If so, nine unmarried women will be occupying quarters of their own for every two unmarried women who are living in households headed by others. Even assuming such a growth in households headed by other-than-married persons, the increase may represent less than 30 per cent of the total growth rather than the 47 per cent it represented from 1950 to 1955.

Viewed against this kind of analysis, the future of the housing market looks something like this:

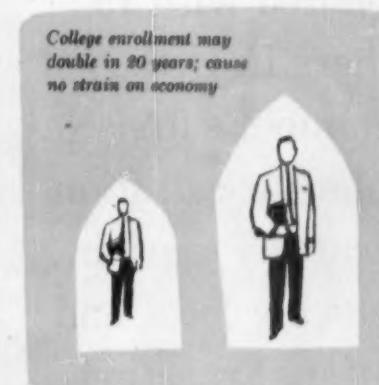
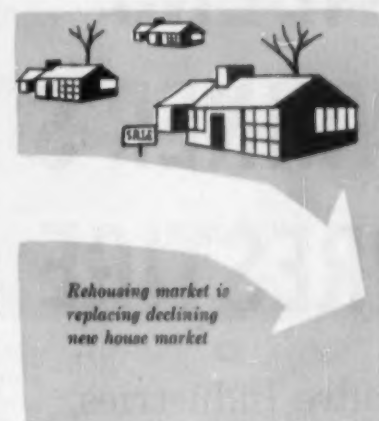
Several factors which have supported it in the recent past will be supporting it less in the immediate future. From 1960 to 1965, the number of married couples occupying quarters of their own may increase by an annual rate of about 650,000 a year, as against an annual rate of 750,000 per year from 1940 to 1950, and of 1,200,000 from 1947 to 1950. Other types of households may increase by less than 200,000 per year, from 1960 to 1965, or less than 50 per cent of the rate that occurred from 1950 to 1955. The total increase in households may therefore be just under 850,000 per year from 1960 to 1965, as against 860,000 per year from 1940 to 1950.

There will be a sizable decline in the net rate of family formation from 1955 to 1960, a pickup after 1960, and, assuming continued peace and prosperity, a volume after 1970 which will be greater than anything which has occurred since the 1947-1950 boom.

Does this suggest a temporary collapse of the housing market? Is the decline in housing starts, which has been underway for roughly a year, a prelude to several years of low housing demand?

The answer again is that appearances are misleading. The increase in incomes [NATION'S BUSINESS, November, 1955] is compensating for the decline in the rate of growth in numbers. As the lower-income families move into the middle-income brackets, they are demanding and getting better housing. Existing housing is being abandoned at a rapid rate. The rehousing market is replacing market for first houses.

(Continued on page 52)



AWARD WIDENS WINNER'S PRESTIGE

Cadre Industries,
honored with 19
others in U.S.
Chamber's first Na-
tional Recognition
Awards Program,
finds big local and
national reaction



Cadre's founders, Ike O'Dell, Wayne Cawley and Sam Douglass

CADRE INDUSTRIES Corporation, a small electronics firm in Endicott, N. Y., received the Economic Understanding Award for companies with 100 to 500 employees in the first Annual National Recognition Awards Program conducted by the Chamber of Commerce of the United States.

This started a chain of events that, two months later, has not yet subsided and is, in fact, expanding. The town of Endicott, population 18,000, immediately reacted with a great whoop of enthusiasm that still echoes.

The national reaction came more slowly but was equally impressive.

Secretary of Commerce Sinclair Weeks, impressed by what he heard of Cadre at the Chamber meetings, wrote of his interest in "your success in promoting economic understanding of the free enterprise system." Similar messages came from New York's Governor Averell Harriman and its two senators, Irving M. Ives and Herbert H. Lehman.

Small companies from southern California to New England contacted Cadre asking for information on operations and labor-management policies. A close relationship has resulted with companies in Connecticut and Missouri. Through round-robin letters and telephone calls, these companies are already exchanging ideas on techniques and processes.

Companies which had never heard of Cadre before are inquiring about services and supplies. Several seem likely to become good customers.

Other correspondence has included inquiries on the possibilities of buying stock in the company.

The 38-year-old Cadre president, Wayne Cawley, remarked in surprise a few days ago, "Boy, what a lot of action has come from the Chamber award!"

The results in Endicott mirrored reaction in other cities throughout the country where four other business firms and 14 local chambers of commerce and one state chamber were honored by the U. S. Chamber for outstanding programs designed to strengthen the economic life of the nation at the community level. Merit citations were won by 20 more firms and chambers.

Local chambers in communities of varying population groups won recognition for achievements through their Programs of Work and for programs in the fields of Congressional Action and Economic Understanding. The state chamber of commerce and the business firms won their awards in the Economic Understanding category.

The reactions to the Cadre award came as a surprise to almost everyone. The Endicott *Daily Bulletin's* 12-page special tribute was completely sold out, and townspeople besieged the paper for extra copies. Merchants wrote their own ad copy and brought it in unsolicited. In fact, so many wanted their "Congratulations" in print that *The Bulletin* had to publish a second advertising tribute two weeks later.

A local housewife who had worked for Cadre wrote in longhand, "If I can



2,000 APPLICANTS are on Cadre's job waiting list. Some of today's 300 employees meet with Vince Earley (above) to discuss reduction of job monotony. Vic Hirsch, 73, (below) was school janitor when Cadre president Cawley was a boy, now works evenings for company



PHOTOS BY GUY GILLETTE—BRACKMAN ASSOC.

AWARD PRESTIGE

continued

THE HOUSEWIFE



THE BANKER



THE PLANT SUPERINTENDENT



get my goose pimples under control, I would like to add my few words of congratulations . . ." This pride is shared by top executives of IBM, who beam like proud fathers when Cadre's name is mentioned; by the cab driver who tells strangers, "I grew up with the boys," by the banker who was a financial midwife at Cadre's birth five years ago, and by everybody a visitor may talk to.

The banker, Kenneth McQueen, executive vice president of the Endicott National Bank, put his finger on the local feeling. He said,

"Almost everyone has had something to do with making Cadre. Old Vic Hirsch, who was the school janitor, helped mold the character of Wayne when he made the school boy walk up the steps, not jump. Bernie Fallon, the grocer, encouraged Wayne when he bought milk from him. Others gave him advice or a smile when he needed it. So we feel part of the shop.

"But it's more than that. Cadre is the American dream come true. When I was a boy we read Horatio Alger and believed it. But not any more. We've talked ourselves into believing a young fellow can't pull himself up by his bootstraps. Well, Wayne and the boys proved that isn't so."

Mayor Burdett Parkhurst, the high school physical education teacher, put it simply, "Cadre's success gives faith to your own judgment."

The boys, Wayne, "Ike" O'Dell and Sam Douglass, opened up Cadre in a corner of an old warehouse in March, 1951. They picked "Cadre" by going down the "Cs" in a dictionary, because someone said, "A company starting with 'C' is always successful."

Today, Cadre has 300 workers, close to \$3,000,000 in sales, a recommendation of "excellent" from IBM, a \$1,000,000 building program, and an A-1 rating with the Chase Manhattan Bank.

Cadre produces panel sets, control units and other electronic devices.

Wayne Cawley is one of five sons of a third generation Irish family. His education was in the local schools and the Air Force. He enlisted before Pearl Harbor and in five years soaked up every course in radar and communications Uncle Sam offered. He was an apt pupil at the Air Force Institute. He left the service a sergeant and veteran of rugged missions over Italy.

When he returned to the quiet of Endicott, Wayne started a milk route. He got up in the early morning to deliver milk, went home for breakfast and a shave, and then went out again pounding on doors to sell his products. He was successful, but this was not enough. He saw a future in electronics and its fast-growing child, automation, and decided to get into it. His idea was to train local boys and young women to do the kind of quality work IBM and other large electronic companies demand of subcontractors.

Wayne persuaded "Ike" O'Dell, a popular and successful traveling salesman, and Sam Douglass, a finance professor at the local college, to invest their talents and savings.

Their progress was described recently by A. L. Becker, general manager of the IBM works at Endicott, "We had a small subcontract requirement, and we gave them a try. They did well. So we came back asked, 'Can you do this? Can you do that?' They showed us they could."

"Doc" (D. H.) Covert, the IBM purchasing agent, added, "We examine closely the facilities, labor, training and top management initiative of all our subcontractors. Cadre rates excellent in all categories."

Cadre's trained and enthusiastic workers, its great attraction to industry, were also a key factor in winning the Chamber of Commerce award. Specifically, the award was for "better economic understanding" between management and labor. On the folder reviewed by the judges is a note in pencil, "Congratulations on staying with theme—freedom of individual is basis of free enterprise system."

The spur at Cadre is future unlimited. A new vice president worked just a few years ago in a grocery store. Fred DuBois, the plant superintendent, once ran a dry cleaning plant. Vince Earley, the secretary and personnel manager, is a protestant minister.

Work and training are the stairs. All promotions, increases in pay, bonuses and stock awards are based on production records. Courses in electronics and communications are open to everyone in the plant, and are well attended.

Management here is a combination confessor, psychiatrist, financial guide and Dorothy Dix for the employees. If a worker's productivity goes down, the boys try to find out why. In one case, a worker was enmeshed with three finance companies who were in hot pursuit. Wayne untangled the net, took him to a local bank and guaranteed the loan.

The employees are treated as partners. The management explains company

actions and policies, and answers questions from the floor. The success is indicated by a few figures. Two thousand applicants are waiting for a crack at Cadre, although this is one of the most settled labor areas in the country. A year ago, when stock was offered employees, they put down \$56,000 in cash.

The first news of the award was a letter from the Chamber. The boys shook hands and slapped each other on the back. Ike said, "we've made it!"

Wayne said, "I'd like to tell Vic." The 73-year-old former school janitor works a few hours every evening at Cadre. He clasped the hand of the boy he had seen pull himself up and said, "Nice going."

Mr. Cawley went out into the big assembly room where men and women (the average age is 30) were stringing cables and setting up units. He made the announcement. This was followed by an awed hush and, then, a roaring cheer. Later, when Ike roamed the plant, employees called him by his nickname and expressed their feelings. Violet Lee said with a smile, "It sure is wonderful." Gabrielle Curran remarked, "It's very nice to feel you're a part of this honor."

The news was broken to the community at large in the April 30 edition of *The Bulletin*. So many merchants and citizens called suggesting a tribute that a special issue was planned for May 4.

Roger Hildenbrand, general manager of the newspaper, says, "I never saw anything like it. Merchants and companies came in with ads without being solicited. The Cadre employees wanted to put in a half page ad, and we tried to discourage them. But they wanted to know what right we had to keep them out."

This ad said, "The employees of Cadre Industries Corp, welcome this opportunity to say 'Thanks' to Wayne, Ike and Sam for five years of considerate, thoughtful management."

A clothier wrote. "The most dynamic person who ever graced the earth said, 'Do unto others—.' Cadre has received the highest national award for exemplifying this bit of advice. . . ."

The next morning Mr. DuBois told Vince Earley, "I've got that front page pasted up on my kitchen wall."

"What's the matter," Vince asked, "do you have a crack to cover up?"

"Nope," said Fred. "It's just because every time I look at it I feel so damn good all over."

Mr. Hildenbrand was getting calls from angry merchants. All had the same gripe. As one said, "Why didn't you let me know about that tribute? I want to get in on it, too." Another begged Mr. Hildenbrand as a personal favor to call Wayne and advise him that his company had not been solicited, and knew nothing of the tribute. A third put the money he might have spent on an ad in a scholarship fund for Cadre employees.

When Wayne returned from Washington where he received the award, he reported to the employees. All the machines were turned off. He stood in the center of the plant, and said, "We want to share those moments at the dinner with you. You earned it for us." He told of the occasion down to the smallest detail.

To this day letters keep pouring into the plant. They come from top officers of the Chase Manhattan Bank, the Women of the Harmony Circle, the secretary to an executive of IBM, the American Legion commander, and a local jeweler who wrote, "All of us have such a feeling of pride and joy."

There is another and equally important type of letter. These come from young men who would like to go into business for themselves and need faith. The story of Cadre's award has opened a door.

Wayne always invites the writers to come over and talk to him or write in more detail.

A few days ago, between signing a contract for a new building and planning a west coast plant, Wayne had a long distance call. It was from a young man he had encouraged to go on his own. The other had a knotty problem and wanted Wayne's advice.

The young Cadre president spent 15 minutes carefully going over the problem and helping the other make a decision.

In apology to a group waiting in his office, Mr. Cawley explained, "It's these first decisions that hit you like the kick of a mule. If you can get through them, you're all right."

He added thoughtfully, "You know, I've tried to think what has been the most important result of the Chamber's award. It has given me a chance to help others find faith in themselves and our system."—TRIS COFFIN

FOR OUTSTANDING ACHIEVEMENT

Here are winners in the U. S. Chamber's first Annual Recognition Awards Program

ECONOMIC UNDERSTANDING

New Jersey State Chamber of Commerce

Business Firms (by number of employees)

The Terrell Machine Company
Charlotte, N. C. (less than 100)

Cadre Industries Corporation
Endicott, N. Y. (100 to 500)

A. B. Chance Company
Centralia, Mo. (500 to 1000)

Pitney-Bowes, Inc.
Stamford, Conn. (1,000 to 2,500)

Kennecott Copper Corp.
Utah Division
Salt Lake City, Utah (more than 2,500)

Merit Citations—Bridgeport Brass Co., Bridgeport, Conn., and Sun Oil Company, Philadelphia, Pa.

PROGRAM OF WORK

Local Chambers of Commerce (by population groups)

Dickinson, N. D.

(under 10,000)

Huntsville-Madison County, Ala.

(10,000 to 25,000)

Joplin, Mo.

(25,000 to 50,000)

Winston-Salem, N. C.

(50,000 to 100,000)

Grand Rapids, Mich.

(100,000 to 200,000)

Houston, Tex.

(more than 200,000)

Merit Citations—Shenandoah, Ia., Delano, Cal., Visalia, Cal., Mitchell, S. D., Wausau, Wis., New Kensington, Pa., Pueblo, Colo., Port Arthur, Tex., Tampa, Fla., Charlotte, N. C., Jacksonville, Fla., and Dayton, O.

CONGRESSIONAL ACTION

Local Chambers of Commerce (by population groups)

Columbus, Neb.

(under 10,000)

Columbus, Ind.

(10,000 to 25,000)

Greenwich, Conn.

(25,000 to 50,000)

Muncie, Ind.

(50,000 to 100,000)

Waterbury, Conn.

(100,000 to 200,000)

Pittsburgh, Pa.

(more than 200,000)

Merit Citations—Albert Lea, Minn., Beverly Hills, Cal., Santa Ana, Cal., and Schenectady, N. Y.

ECONOMIC UNDERSTANDING

Local Chambers of Commerce (by population groups)

Albert Lea, Minn.

(10,000 to 25,000)

Joplin, Mo.

(25,000 to 50,000)

Dayton, O.

(more than 200,000)

(No awards in three classes)

Merit Citations—Kokomo, Ind., and Rochester, Minn.

YOUR MARKET · 3

YOUR CUSTOMERS' SHARE OF 1965 INCOME

PERSONAL income in 1965 should reach \$475,000,000,000 if recent trends continue. Present rate is \$317,100,000,000. Increased population will cause about one third of the rise, higher per capita incomes the remainder. Per capita income was \$1,770 in 1954, should rise to \$2,460 in 1965.

Population is rising most rapidly in the Pacific and Mountain areas, more slowly in the East South Cen-

tral and West North Central states.

Per capita income is highest in the Pacific and Middle Atlantic areas, and lowest in the East South Central states.

Total United States income is expected to rise 48 per cent by 1965 but increases for individual areas range from 30 to 66 per cent.

New England. Compared with national averages, per capita income here is nine per cent higher, but

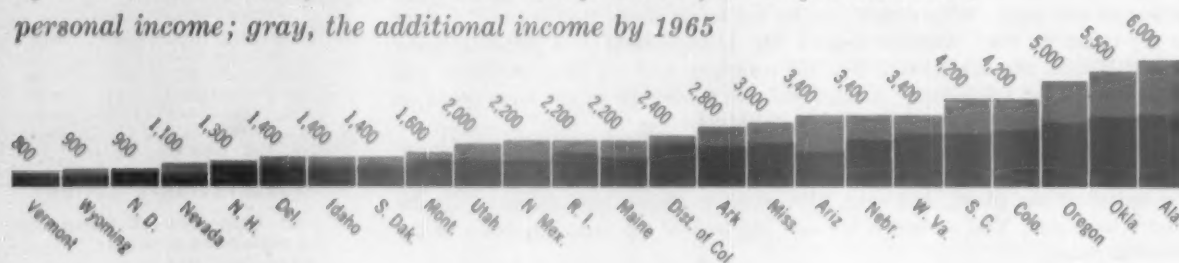
rising at a slower rate. Population is also increasing slowly, so New England's share of total income, which dropped from eight per cent in 1940 to seven per cent in 1954, is expected to reach six per cent by 1975.

Middle Atlantic. Population and income are heavily concentrated in three states, which have 3.4 per cent of our land area, but 20 per cent of our population, and pocket 23 of every 100 personal income dollars. Per capita income is 15 per cent above the national average, and is expected to be about seven per cent above the average in 1965.

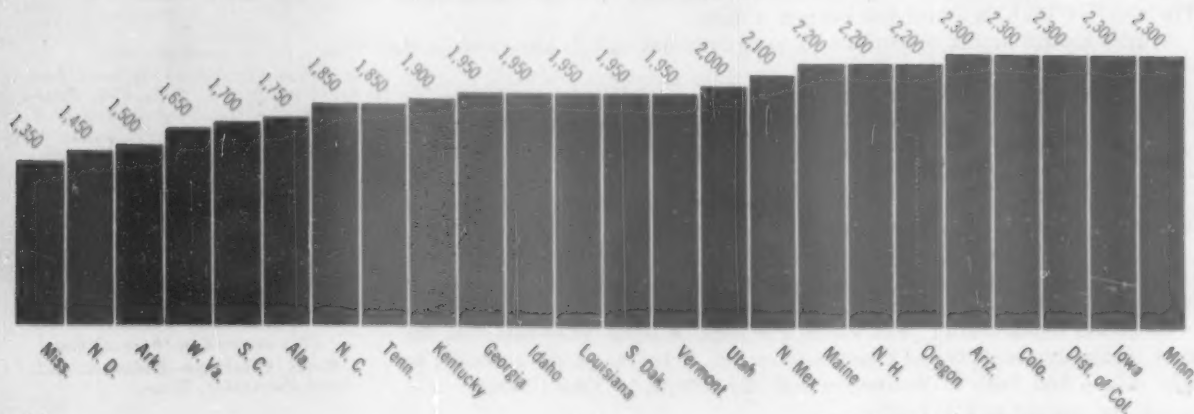
East North Central. This heavily industrialized region has 20 per cent of U. S. population and receives 23 per cent of total income. Population and average income are increasing at almost the same rates as national averages. Per capita income in 1954 was 12 per cent above the U. S. average, will change little in 1965.

West North Central. Income is influenced by the fluctuations of agricultural economic conditions. Average incomes rose rapidly during the 1940's, but slower than the national average in the 1950's. Population is increasing at less than half the national rate. Per capita income is now,

Total personal income: Money figures show estimated 1965 personal income, by states, in millions of 1956 dollars. Black portion of bar represents 1954 personal income; gray, the additional income by 1965



Per capita income: State by state comparison of estimated 1965 personal income per capita in 1956 dollars



and is expected to remain, about 95 per cent of the national average.

South Atlantic. Population and average income of the South Atlantic states are rising faster than the national averages, and total income is expected to rise 62 per cent by 1965. Per capita income was 77 per cent of the national average in 1940, 81 per cent in 1954, and is expected to reach 86 per cent in 1965.

East South Central. Increased industrialization and declining dependence upon agriculture give this area the fastest rising per capita income in the country. Average incomes were 49 per cent of the national average in 1940, 63 per cent in 1954, and should reach 71 per cent by 1965. Population is increasing at less than half the national average rate, so total income of this area is increasing only slightly faster than the national average.

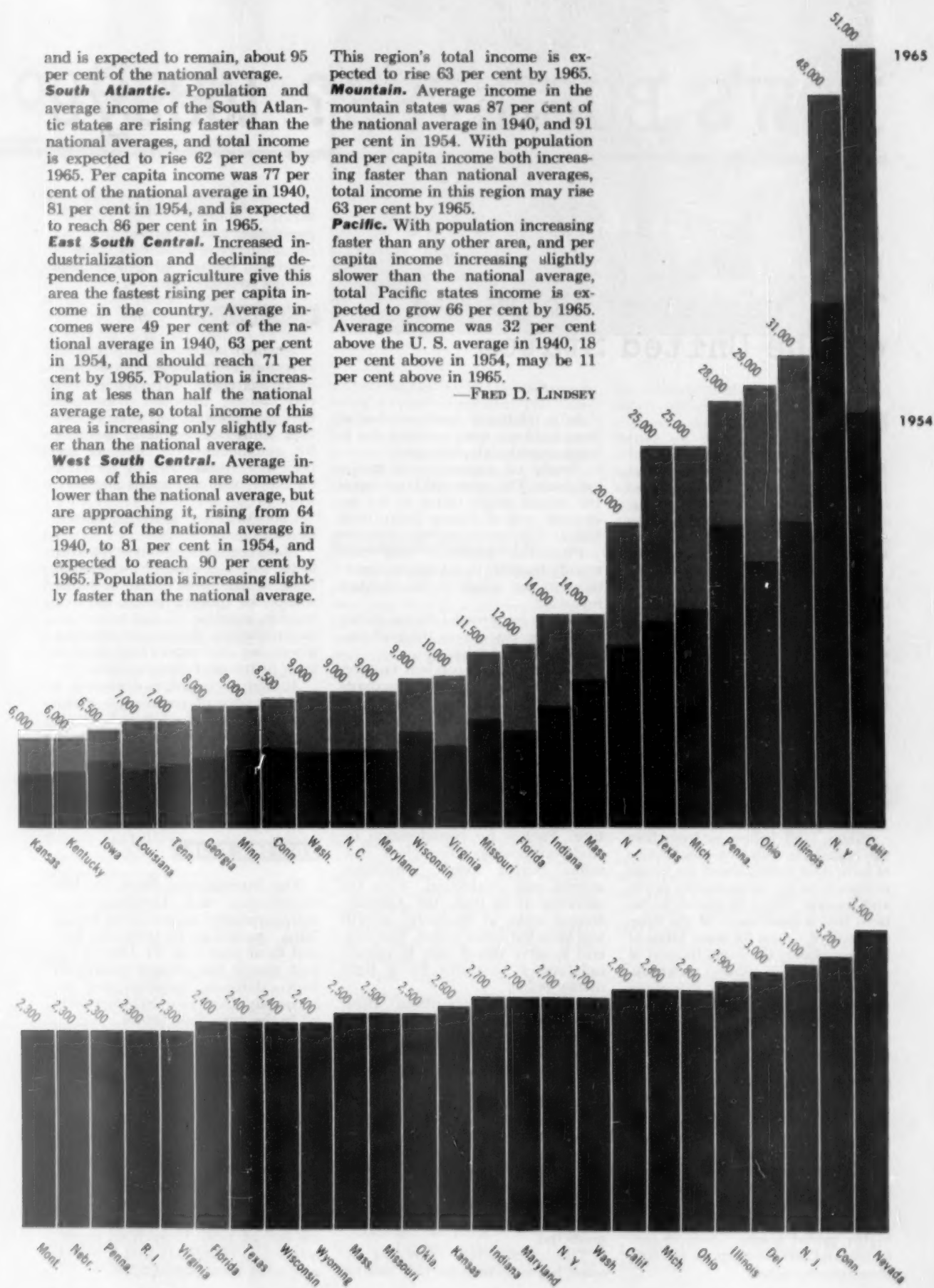
West South Central. Average incomes of this area are somewhat lower than the national average, but are approaching it, rising from 64 per cent of the national average in 1940, to 81 per cent in 1954, and expected to reach 90 per cent by 1965. Population is increasing slightly faster than the national average.

This region's total income is expected to rise 63 per cent by 1965.

Mountain. Average income in the mountain states was 87 per cent of the national average in 1940, and 91 per cent in 1954. With population and per capita income both increasing faster than national averages, total income in this region may rise 63 per cent by 1965.

Pacific. With population increasing faster than any other area, and per capita income increasing slightly slower than the national average, total Pacific states income is expected to grow 66 per cent by 1965. Average income was 32 per cent above the U. S. average in 1940, 18 per cent above in 1954, may be 11 per cent above in 1965.

—FRED D. LINDSEY



HOW'S BUSINESS? today's

An authoritative report by the staff of The Chamber of Commerce of the United States

AGRICULTURE

Recent Department of Agriculture figures reveal an all-time high in the average price of farm land per acre. This, at a time when some segments of agriculture have been or are in what is called distress, seems to some people inconsistent.

The reasons for these prices are many. Most important is the rapid development of farm technology.

Technological methods generally call for high outlays. To make the most of such outlays farmers want to spread costs over as much acreage as possible. They bid high for additional acreage.

Added to this is the steady encroachment of nonfarm uses for land—highways, industrial sites, urban home development. Some states have even taken steps to limit this encroachment by zoning and other restrictions.

Where land values go from here will reflect the collective conclusions of farm land buyers about the future prospects for farm commodity prices and income. There is reason to believe that a good share of the present level of values for some kinds of land represents the capitalization of government price support programs.

Even if prospects on this score may be less predictable than they seem to have been the past few years, the prices of farm land seem likely to hold up well for some time.

CONSTRUCTION

Current problems of home builders are highlighted in a recent survey by the National Association of Home Builders made up of representative builders in 41 states and the District of Columbia.

Many builders are shifting to higher priced homes. Costs of materials and labor are up, as are bids from subcontractors.

In a relatively small number of areas hold-ups were reported due to labor or materials shortages.

Nearly all reported unit profits are down. The increased land cost is the largest single factor in the increased cost of homes being built today.

Financing, mortgage, and community facilities problems are uppermost in the minds of the builders reporting.

Selling from model homes rather than inventory is now the predominant method of sales.

In summary, respondent builders reported money as tight, discounts up, sales off, although recently improving, and production being cut back, particularly among larger builders.

CREDIT & FINANCE

What is ahead in the credit picture? Factors for consideration include business spending plans, consumer buying trends, population growth and production. With the economy at its peak, the Administration seeks to encourage growth and keep the dollar sound. The Federal Reserve Board tries to control inflationary pressures by a tight money policy.

Stimulating forces ahead: Business is planning to spend \$35,000,000,000 on new plant and equipment, 22 per cent more than last year; consumers are accumulating personal savings at an annual rate of \$22,000,000,000, or \$3,000,000,000 higher than last year; personal income will more than likely run at an annual rate of \$320,000,000,000 as compared with a rate of \$312,000,000,000 in last year's fourth quarter.

Over-all population increase of 14,000,000 persons by 1960 is now predicted.

This combination of higher income, higher take-home pay, greater

savings, improved debt position, population rise, is expected to put the consumer in a spending frame of mind and the normal growth trend will not be interrupted.

DISTRIBUTION

Personal income is still running at record level. Consumer spending, in the aggregate, is also higher than ever before, although consumers have cut spending for certain products. Thus far, decline in spending for automobiles and housing has been more than offset by spending for other consumer goods and services.

Cool weather, however, slowed sales of summer clothes.

Many retailers are now looking to the vacation season for a boost in sales. A large part of this spending will be for sporting goods, apparel, luggage, gasoline, oil and tourist accommodations. Eating and drinking places can also expect high level of sales in the next three months.

Tourist expenditures represent a major source of income for many communities and states. A travel survey by the American Express Company indicates that vacationing Americans will spend \$15,000,000,000 in domestic travel this summer. Number of vacationists is estimated at around 80,000,000.

FOREIGN TRADE

The International Bank for Reconstruction and Development—more commonly known as the World Bank—wound up its tenth and biggest fiscal year June 30. During the past year it has set new records in loan extensions, earnings and reserves, and faces an even busier period in the immediate future.

Between June and September it expects to extend about \$450,000,000 in loans, \$40,000,000 more than the Bank lent in all of its 1955 fiscal year.

Earnings for 1955-1956 are expected to total \$29,000,000 and reserves should set a new high of about \$225,000,000. The Bank has not been in the U. S. bond market for more than two years, but may turn to this country for financing before the end of 1956. In such an event, however, it is unlikely that it would seek more than \$100,000,000.

outlook

GOVERNMENT SPENDING

The rate of government spending in 1956 and 1957 will be higher than expected. For the current year expenditures are expected to run ahead of the \$64,270,000,000 forecast last January. With revenues well ahead of expectations and well above last year's rate, the pressure for economy is not as strong and the brakes on spending have been let up all along the line.

On top of this, push for a stepped-up rate of spending for various defense items, such as aircraft, is already in evidence, and can be expected to show up still more in 1957 fiscal which begins this month.

In January, the budget spending forecast was \$65,865,000,000 for 1957. While the final total of appropriations by Congress may be a little below the budget recommendations, there are enough billions in appropriation carryovers, particularly defense items, to permit a higher rate of spending.

This, plus larger appropriations for agricultural aids and other purposes popular in an election year, makes it likely that 1957 government spending will run well above \$66,000,000,000.

LABOR

The area of state authority in labor law has been repeatedly whittled away by decisions of the United States Supreme Court.

A recent victim was the Pennsylvania law on sedition. It was struck down by the Court only because Congress had legislated on the same subject.

There is need for congressional action clearly defining what authority it intends to remain with the states, and thereby make constant judicial interpretations on the point unnecessary.

Those believing in more state authority are heartened by a recent Supreme Court ruling in a Wisconsin case, which upholds state authority to ban mass picketing, violence, and threats of violence.

Meanwhile, another important decision on the subject will face the Court next fall. This is a California case in which the National Labor Relations Board ruled not to exercise jurisdiction over certain em-



AUTHENTICATED NEWS

ployers whose interstate business is below a specified volume. The California courts then enjoined picketing intended to force an employer to agree to encourage union membership. Such encouragement was unlawful by both federal and state law.

NATURAL RESOURCES

One of the principal reasons so many Americans suffer from water shortages is their insistence on bargain rates for water. Revenues from sale of water are insufficient to support the development of adequate supplies.

Many water works systems are attempting to supply a necessary service with the least possible cost and investment. These penny-pinching operations are a far cry from the water departments of large industries which recognize water as an essential raw material of production. Modern boards of directors in industry now include in their plans an adequate water supply, and they spend the necessary money for surveys, development, treatment, operation, and waste disposal.

Municipal water systems should take a page from industry's book and convince their boards of directors that higher water rates and additional revenue are necessary if growing demands for water are to be met.

Businessmen can help improve their local water supply system through their local chambers of commerce or service organizations.

TAXATION

Renegotiation—a one-way profit limitation administered by the federal government—is now scheduled to expire Dec. 31, 1956.

Although its purpose and objective are beyond question, it has received massive criticism because of

its subjective approach and sometimes capricious effects.

Recent studies by the Joint Committee on Internal Revenue Taxation—to which the Treasury, Defense Department and many outside organizations have contributed—show clearly a number of basic defects and propose improvements.

A two-year extension of the Act is proposed, with a list of recommendations which would restrict its scope and remove a number of the more severely criticized provisions.

While the Act could be extended retroactively, there will be strong pressure for action before the July adjournment. It is quite probable the pressures will succeed in extending an amended law.

TRANSPORTATION

A start is being made to balance the postal service budget but, in the time remaining in this session of Congress, final action is doubtful.

The Post Office Department has been running a deficit at the rate of \$460,000,000 a year over the past ten years. On this accumulated deficit alone, the interest is \$100,000,000 a year.

This fiscal year the deficit is expected to reach \$470,000,000.

The Postmaster General has asked Congress to increase postal rates. He has done this before but he is making more progress this year.

The House Committee on Post Office and Civil Service approved increases of one cent in the first-class letter and airmail rates; annual increases of six per cent on reading matter and 14 per cent on advertising in newspapers and magazines over a five-year period; and approximately 25 per cent on circular mail.

Even with a favorable vote in the House of Representatives, it is still likely that current rates and a continuing deficit will be before the next Congress.

LEASE-BACK

continued from page 35

lower rentals, and it agrees to pay all taxes, insurance, cost of improvements and to take care of upkeep during its tenancy.

The advantages to Safeway or to other firms that follow the lease-back system are mainly three:

1. The company does not tie up its funds in bricks and mortar, but keeps them fluid as operating capital. It has been estimated that working capital is worth 20 per cent a year to a healthy business. The same money put into real estate would not approach this. Profits come from the use of fixed assets, not from holding title to them, and leasing back affords the operator the same use of these assets as though he had bought them outright.

2. The yearly payments of the operating company to the lessor constitute a fixed rental charge, which is a wholly deductible expense out of gross profits before taxes. If the operator owned the property, he could depreciate it at only about three per cent a year. The lease-back, therefore, gives a firm at least a 100 per cent tax advantage on real property over a firm that holds its own property.

3. If a large firm attempted to build and keep possession of its own stores in a \$500,000,000 expansion program, its balance sheet, showing a \$500,000,000 building debt, would look so out of joint that no sane lender would let that company have any more money. On a lease-back, all that is necessary balance-sheet-wise is a footnote explaining that the firm is paying so much per year in rentals.

The advantages of lease-backs to the investor, Sidney Barton says, are every bit as apparent. Lease-back investors dwell in what he calls "quiet enjoyment" of their holdings, in the knowledge that 20 years hence the tenant will still be paying full rental and will not want to move.

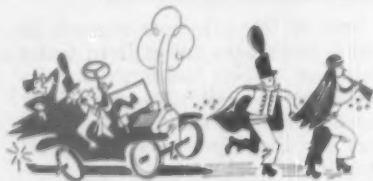
"If a man invests in an apartment house, his return may be greater than it would be on a lease-back—for awhile, but not in the long run," Mr. Barton argues. "An apartment house owner may get an eight to 20 per cent return a year. But then you get tough times. Rents go down, the tenants double up on you, and you're in bad shape.

"A lease-back will not bring in any 20 per cent return, but you have as a tenant a company with hundreds of millions of dollars in assets. Since most lease-backs are of the 'absolute

net' type, the owner has no worries about taxes or upkeep. After 25 years, in most cases, his mortgage has been amortized automatically from the rental payments and he owns the property outright. In other words, the owner of a good lease-back property has the nearest to a sure thing that it is possible to get in an investment."

According to *The Harvard Business Review*, there was one unnamed lease-back deal in England as early as 1832. European insurance companies had been dealing in lease-backs for several decades before the insurance firms in this country were allowed to make such investments.

The real birth of the lease-back in the United States came in 1942 when the State of Virginia amended its investment statutes to permit life insurance companies to buy commercial real estate up to five per cent of their assets. On the day the statute was changed the Life Insurance Company of Virginia bought a Washington warehouse from Safe-



way Stores and leased it back. In 1943, North Carolina became the second state to allow insurance firms to buy commercial real estate. Now the only states that do not allow these companies to do so are Texas, South Dakota and Michigan.

At the beginning of 1956, U. S. life insurance companies owned a total of \$2,557,000,000 worth of real estate. Of this, \$1,498,000,000—nearly two thirds—was in commercial rental properties, 90 per cent of it represented in lease-backs. This compared with \$453,000,000 that the companies owned in rental housing, \$583,000,000 in the companies' own office buildings, \$8,000,000 worth of farm properties and \$15,000,000 in other real estate.

The lease-back idea was still pretty much a novelty—insurance companies owned an aggregate of only about \$300,000,000 worth of commercial properties—in 1949 when Sidney Barton entered the field. He had been making a living for some years selling picture frames. In 1949 his business petered out.

"I looked around," he recalls, "and the only business I could see where you could make lots of money with no capital was in real estate brokerage. I gave myself six months to become a successful real estate

man. If I hadn't done it in that time, I would probably be driving a truck now, or maybe a subway train.

"I worked for five months ringing doorbells and pounding pavements, and I didn't close a deal. Then, toward the end of my sixth—and final—month, with two other brokers I handled the sale of the Sloan Building on Fifth Avenue for \$3,500,000 to Joe Durst, member of a wealthy New York family.

"When that deal was finished, Joe Durst asked me if I had anything else good for sale. He was still in the market. This was the first acquaintance I ever had with a man who had real money. After paying \$3,500,000, he still had money to spend. I was impressed. I knew then that this was the business for me."

About that time Mr. Barton learned that Safeway Stores was planning to build 50 stores for \$13,000,000, sell and lease them back. He started a three-week campaign of calling George Burroughs, vice-president in charge of Safeway real estate, long distance several times a day. Mr. Burroughs' office is in Oakland, Calif.

"Mr. Barton obviously knew nothing about real estate," Mr. Burroughs recalled recently. "He proposed some of the craziest deals I ever heard of. I told him to let me alone. But he kept on that telephone. He seemed gradually to absorb the idea of how we wanted a deal put together. His propositions began to make more and more sense until finally he was able to line up a deal acceptable to us before anybody else did, and he sold it."

Mr. Barton has stuck with lease-backs, become an authority on the subject and has done an average of nearly \$40,000,000 in business a year. He does around \$50,000,000 a year these days. His biggest single deal was for \$18,000,000 and involved buying and leasing back some Sears-Roebuck retail stores. Mr. Barton now owns property that, when amortized, will be worth about \$40,000,000—or \$10,000,000 short of his goal.

All this should be pretty strong proof that all of the promising business frontiers do not lie in such romantic fields as uranium, or physics or industrial chemistry.

About nine out of every ten lease-backs are handled through brokers. Perhaps not more than half a dozen brokers do more than \$20,000,000 business a year, although there are a hundred or more smaller ones. A supermarket company, for instance, usually prefers to do business through a broker rather than to go directly to a financial institution



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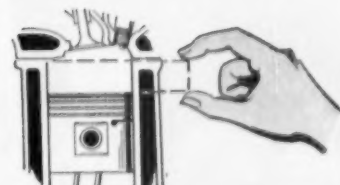
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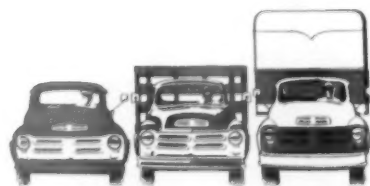
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NATION'S BUSINESS · JULY 1956

because, as Mr. Barton says, "Brokers know the money market. We know what institutions and investors want to invest how much on what at any given time, and are usually able to get the client a better deal than he could obtain alone. Supermarkets are experts at selling beans. We are experts on money."

Another angle is that no state will allow insurance firms to invest more than five per cent of their assets in real estate, and a number of states, including New York, limit such investments to three per cent. However, insurance firms can invest 50 per cent or more of their assets in mortgages.

In deals involving these insurance companies, a broker handling a big sale and lease-back may farm out two-thirds of the amount as a mortgage to an insurance firm. His stable of private investors will put up the other third as equity. A part of their annual rental receipts will be devoted to amortization so that, in 25 years, the mortgage will be paid off.

The lease-back market is highly competitive because brokers and investors are willing to shave a deal closely on a sure thing. Which broker lands a deal often hinges on a fraction of a per cent. If, for instance, a chain of drug stores contemplates some new installations on the West Coast, its real estate manager on the West Coast will contact lease-back brokers he knows out there and get an offer of perhaps seven per cent rental a year. He reports this to the head office in Chicago, which may have information that a New York broker is in position to line up a more favorable deal. The deal may go to the New Yorker for as little as one-eighth of a per cent under the West Coast offer.

When he does not know well a company that is seeking to sell and lease back some property, Mr. Barton checks its bonded credit, its stability, moral soundness, how many lease-backs it has already handled, the depreciation factor of the land and buildings proposed and the chance of their appreciating in value. He turns down more of these deals than he accepts.

If, however, he knows the company well and favorably he may agree to take a \$5,000,000 lease in the course of one telephone conversation.

"A good broker is flexible," Mr. Barton maintains. "He doesn't have to hold a director's meeting to reach a decision."

Brokers operate pretty much in lone wolf fashion. Mr. Barton's suite at 400 Madison Avenue, New York, consists of three offices and one small reception room. His staff

is made up of himself, his associate, a secretary, a stenographer and a part-time accountant.

Mr. Barton's associate, Lester Giegerich, a former Air Force colonel, was head of the real estate department of a New York insurance firm, making \$10,000 a year, until Mr. Barton took him in several years ago. During his first year with Mr. Barton, Mr. Giegerich made \$100,000.

"The lease-back system," says Mr. Giegerich, a quiet-spoken, erudite man, "is unlike most real estate because it is so impersonal. Sid Barton feels some pride of ownership in his holdings, I'm sure, and he keeps pictures of a few of them on his walls. But I doubt if he has ever seen half a dozen pieces of the properties he owns. When you buy a property and lease it back, you are not doing so because it looks good to you or because you are sentimental about it. In effect, you are making a wager that the lessee-firm will remain solvent and able to pay its rent for the specified term of the lease."

"I have bought some lease-back properties for myself in Missouri, Texas and elsewhere, but I have seen hardly any of them. Not long ago I had a several hours lay-over at the airport in Kansas City, where a few years before I had bought and leased back a cake plant. I had a sudden yen to see this plant. I asked a taxi driver at the airport if we had time before my plane to go to that address. He said we did, and we went."

"When I walked into the cake plant office, the receptionist asked briskly, 'What can I do for you, sir?' I really didn't know what to say. I was embarrassed. Finally I mumbled that I owned the place and I would like to look around. The girl gave me an incredulous stare and said she guessed she had better call the manager."

"I tried to explain to him who I was and why," Mr. Giegerich recalls ruefully. "It took quite awhile, and I'm not sure that I was able to make him understand or to convince him I was not some crackpot."

"And that," Mr. Giegerich concluded, "is a good example of the peculiar position of the owner of lease-back properties. You have little personal attachment to what you own. On the other hand, you do not have to worry about fixing the roofs, or the walls, or the plumbing or of paying the taxes. You get a good return just to own the property."

"The lease-back is a coldly efficient business. It is entirely practical, taciturn and unsentimental. It is the nearest approach that real estate has ever made to the bond market."—RUFUS JARMAN

POPULATION

continued from page 39

The demand for credit will also feel a tremendous upsurge about 1970. Young families get started by pledging savings yet to be made and enjoying the goods before they have been paid for. The number in the 25 to 34 age group will begin to increase substantially by 1970, and by 1975 it will be 30 per cent higher than it is now.

If average incomes increase only two per cent per year between now and then, and if the proportion of debt to income does not change, this could mean an increase of more than 90 per cent in the amount of credit extended to families in this age group.

If the lease-purchase installment trend continues, the business handled for young families will increase even more.

Studies made by the University of Michigan's Survey Research Center for the Federal Reserve Board in 1955 indicate that more than 75 per cent of families headed by people 25 to 34 had contracted installment debt. For 20 per cent of them, charges on debt equaled 20 per cent of income.

On another age level, less than 35 per cent of those 45 to 54 had installment debt. For only ten per cent did debt charges represent 20 per cent of disposable income.

Increasing numbers of young people after 1960 will mean more business for moving vans, real estate offices, mortgage offices and other concerns involved when populations shift location.

More than 40 per cent of the population aged 20-24 tends to move once a year; more than 28 per cent of the families with children under five tend to move each year. As the age of the head of the family rises to 25-29, the family has moved in only about one year in three. By the time the head is in the 45 to 64 bracket, the chance is about one in eight that the family will move in any year.

Only one in ten moves in any given year after age 65.

The increase in the proportion of young people will therefore add to the mobility of the population.

Productive ages

About 44.5 per cent of the entire population was in the "productive" ages of 25-60 in 1955.

Only about 40 per cent will be within those age limits in 1965 and only 38 per cent in 1975. That is a drop of one per cent per year from



Increasing numbers of young people mean upsurge in credit demand

1955 to 1965 and a half per cent from 1965 to 1975.

Using age limits 20 to 65 gives similar, though not as severe, results. The drop will be from about 55 per cent in 1955 to 51 per cent in 1965 (three-quarters per cent per year) and to 50.5 per cent in 1975 (one-quarter per cent per year).

This represents an average drop of a half per cent per year from 1955 to 1975. If output per worker continues to rise two per cent per year but the number of workers drops one-half per cent, then the trend in the per capita output of goods would decrease 25 per cent—a sizable setback to our tradition of a rising standard of living.

Fortunately several factors promise to prevent this from happening:

Employment of women is rising rapidly. The proportion of women aged 35 to 44 in the labor force has increased nearly 70 per cent in the past 15 years. The number of women aged 45 to 60 will grow nearly 30 per cent or more than 4,000,000 from 1955 to 1975. Increased employment opportunities for women might add the equivalent of 2,000,000 to the labor force.

Part-time employment is being more carefully explored. Industries which learn first how to use this technique may find themselves at an advantage in the labor market. Unions which make full allowance for the new opportunities for part-time work in their plans may find that they have a new source of loyal members.

Part-time work, performed by those who prefer it, today accounts for only approximately ten per cent of nonagricultural employment. This percentage should be far higher in 1965 and 1975. This will present a minor problem to statisticians because figures on the number of hours employed and on the average work-week will be thoroughly muddled.

Increased college enrollment may have less effect on the working force

than many people anticipate. The trouble may actually be of another sort: High wages may induce our youth to leave school too early.

But assuming they stay in school, it does not necessarily mean reduced output, due to a reduction in the labor force. With higher wages, and better training, more and more high school and college youths will be working summers, week ends, and at other times. Most of the men and many of the women enrolled in college will not be entirely out of the labor force in 1965 or 1975. If the number of college students increases by even 4,000,000 between now and 1975, it might mean an effective loss of not more than 2,000,000 from the potential labor force.

The term of years students will stay in college—and away from full-time production—is not likely to increase. Educational processes are being improved, just as manufacturing processes are. Psychologists and educators are learning more about how the mind may retain, understand and use more concepts per unit of time.

Twenty years from now, a 22-year-old may know more about the complicated world of 1976 than the young man or woman of 22 knows about the comparatively simple world of 1956. More academic research work may be done by women ten and 20 years from now, further helping the country progress without a serious cut in the labor force.

Finally, more and more teaching and research will be done by progressive companies. This will not lessen our dependence upon colleges and universities but it will improve our ability to increase knowledge and productivity outside of college.

Older people also constitute a still untapped source of productive workers. More than 68 per cent of all men and nine per cent of all women 65 and over were working in 1900. Only about 58 per cent of these men and eight per cent of the women were working in 1930; only 41.5 per cent of the men and less than six per cent of the women were employed in 1940. The tide turned to some extent temporarily in World War II but the proportion is still far below what it was even 16 years ago.

To the extent that workers wish to retire at a given age, such as 65, they can now do so with increasing—though not yet adequate—ease. Our economy is rich enough to make voluntary retirement at 65 both financially possible and physically comfortable. So, a comfortable retirement should be possible as workers reach some specific age. But it should not be compulsory.

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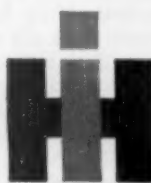
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POPULATION

continued



Rising birth rate of 1965-1970 will exceed recent record levels

opportunities and to augment our labor force, it would seem desirable and profitable to provide more work opportunities, either full- or part-time, for those over 60 or 65. It might well be possible to increase job opportunities for those over 65 so that the proportion at work, because they want to work, could go up by a third, or about to the 1920 level. This would add nearly 3,000,000 persons to the labor force during the next 20 years.

Increased job opportunities for those in college, for women between 45 and 65, for those 65 or over, and for others who want part-time work, may add the equivalent of 7,000,000 or more to the labor force by 1975. An increase in college enrollment (offset in part by improved employment opportunities) might result in a loss of the equivalent of 4,000,000 workers. This would leave a net gain in the labor force from improved working opportunities in these categories of about 3,000,000. The increase in the population aged 15 to 65 should add over 16,000,000 to the civilian labor force, making a total increase of over 19,000,000, or about 30 per cent.

Thus the decrease in the rate of growth in the number in the middle-aged group need not cause an unmanageable strain on the labor force. It may cause other problems.

The population between 45 and 64 will grow about 29 per cent in the next twenty years. This is a smaller growth than will appear for any group under 35, or for the group over 65, and it is smaller than the rate of growth for the population as a whole. But it is large enough to be significant.

This group has the highest average income, but it does not necessarily make the biggest purchases. Most in this bracket have found a home, and they tend to be more sat-

isfied with their home than younger families. They tend to have a sizable equity in their house, so, if they decide to move, buying a new home need not involve a large increase in mortgage indebtedness. They buy new automobiles at slightly above average frequency, and owe less for them than do younger buyers. Their money goes for such other items and services as vacation trips, hi-fi phonograph components or school tuition for their older children. But they can handle these purchases more easily than was possible before they were 45, or than will be possible after they are 65.

The fact that this group, while growing income-wise with the economy, will not grow in numbers proportionately to either young or older families will, among other things, make market studies based on income data more hazardous.

In another field, the anticipated decline in the ratio of labor force to total population could conceivably encourage a shift upward in the tendency to invest. The reduction in the proportion of the labor force will tend to increase wages also. With these two pressures coming at once, continuation of the historic great rise in the standard of living will be possible only if the productivity of the new equipment rises with more than its historic rate, both per unit of cost and per unit of labor. Labor will come to recognize this, and obstacles to increasing productivity should decrease as they have, for instance, in the soft-coal mining industry.

Older people

The country has more to learn about how to give the most to—and get the most from—people more than 65 than about any other group. These people will increase in number more than 45 per cent in the next two decades.

What these people want obviously is the right and opportunity to continue as part of the community. They also want an adequate income and housing they can afford, companionship, shopping, recreational and medical facilities, and a chance for work and hobbies.

The implications of many of these wishes are relatively clear. For instance, there will be increasing study of the desirability for massive housing projects for the aged. There will continue to be a place for such housing, particularly for the feeble, but many will prefer housing that is more closely tied into their community.

Houses for older people may require some new financing methods.

Obviously, the life expectancy of a buyer in his 60's does not warrant the assumption that he will amortize a 30-year mortgage if he merely meets the required payments each month. However, all that may really be needed is a monthly payment adequate to meet interest, depreciation, maintenance and repair and a profit. The transfer of title to the occupant may be little more than a technicality which is of psychological benefit to the occupant. It may, in fact, mean little except that the house is rented to a person or family who agrees to maintain it and pay the taxes.

If a house designed for old people is properly built, priced, and located, the owner should be able to keep it filled from a population that is growing at the rate of about two per cent per year. So, life tenure arrangements, mortgages endorsed by younger people or by institutions, or even simple mortgage agreements providing foreclosure arrangements can be handled speedily and cheaply in event of death or failure to live up to the terms might be fully as adequate a protection for the lender as is a mortgage signed by a good, young credit risk. Experiments are being conducted along these lines, and opportunities for profit will increase in the next few years.

Community planning for older people must meet special needs and limitations. Older people will obviously need less in the way of



Pension payment load may change investment sources, union demands

schools, or tennis courts. They may need more in the form of facilities for the less strenuous types of recreation. They may not, contrary to popular thinking, need more in the way of hospital facilities. Old people do not get sick as often as children. They have no more accidents than children. Out-patient care is often adequate. A few, of course, need extended care. But that is true of younger people too, and sometimes



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POPULATION

continued

for longer periods. The need for hospitalization does not rise directly with the age span.

Payment of pensions and the amount in pension funds will have some interesting effects on the economy. Today the public and the private pension plans are taking in \$5,000,000,000 to \$6,000,000,000 more from workers than they are paying out. This amount is available for investment, in stocks and bonds (it is helping to sustain the stock market) in real estate, in loans to business, and in government bonds. As the number of persons over 65 rises, this margin will shrink, even though payments into pension and social security funds continue to rise. By 1975 or thereabouts, the margin, if any, may be small. This will mean more money for consumption—but not as much from this source for investment. The need for additional investment to provide the equipment for the increased labor force will be acute ten and 20 years from now. This phenomenon will aggravate the situation.

In the meantime, the increase in the percentage of savings that is flowing to pension funds will require a re-look at the opportunities and the rules governing the investment of those funds. Devices to provide attractive means for pension funds to reach the mortgage market are being worked on and will be developed.

The inflationary aspect of the shift of pension systems from encouraging investment to encouraging consumption needs attention. About 30 cents of the hourly wage increases that have occurred since 1940 have been in the form of fringe benefits—as pension rights. This has helped hold down demand, and reduced the pressure on consumer prices. But as this becomes a payment to, not just a deduction from, a worker, this will mean pressure on prices.

Union demands may also change.

As of today, few power blocks are concerned with stable prices. Emphasis has been on higher incomes.

But the interest in maintaining, if not increasing, the purchasing power of pensioners will grow as the number who anticipate receiving pensions grows. Workers passing the age of 45 begin to think more seriously about retirement rights. Even though they are not yet receiving pensions, they expect to be in that position in the foreseeable future. So they will become more aware of rising prices—even though their

wages rise faster than prices. They might exert more pressure through their unions for increased protection to their future rights. As they approach 60, they will be more and more concerned with this problem.

Efforts to maintain or increase the real purchasing power of pensions may take one or both of two forms. One could be toward working on agreements with management which would call for only modest wage increases in return for reduction in the price of the product and increase in the promotional activities to improve employment possibilities and support the purchasing power of those on pensions.

The other might be pressure for increase in pensions along with increase in wages. This, of course, would reduce the proportion of the income which would go to existing workers and increase the proportion among pensioners. It also would tend to make pension funds unsound actuarially and tend to make pensions more an old-age assistance fund and less an annuity earned by workers.

Another aspect of some social significance may be the efforts to change the laws so that pensions may be paid at the age of 65 whether or not the worker continues to receive a wage or salary.

The increased number of deaths is another economic fact which is seldom discussed in connection with the growing number of older people.

The increased life span has been postponing deaths temporarily. However, in 1955, the increase in the number of people in the upper age groups brought an increase in the total number of deaths in spite of the fact that age at death averaged higher in 1955 than it ever had before. There have been more deaths to date in 1956 than in the same period last year. By 1965, the number of people 65 and over will be nearly 25 per cent higher than in 1955. The number 75 and over will be 32 per cent greater. The number of families dissolved by death, and the number of deaths of individuals occupying quarters of their own or heading households of their own will be much higher ten years from now. These deaths will release additional numbers of houses and will provide other items for new or younger families—furniture, jewelry, securities, even television sets and radios—thus reducing the market for additional new units.

These are some of the challenges—social, technical, political and economic—that the shifts in age distribution will offer us. But they are the sort of challenges a free economy is equipped to handle.

—ROBINSON NEWCOMB

OPERATIONS RESEARCH:

can you use it?

Reports of savings from using this new technique in production, sales, accounting, purchasing, human relations cause businessmen to ask:
Where does one find out about it? How do I start?
Can my company use it? Here are pointers

ALL OVER the United States, executives, engineers and scientists are going to school to study the newest and most talked-about technique of modern management: Operations Research.

Business is already aware of Operations Research by definition: the organized application of the methods and techniques of science to the operating problems of business, government and the military; object, to give management a sounder basis for decisions. What business is out to learn now is how to put it to work—for profit.

Business interest in Operations Research is intense, partly due to tales of the fabulous profits that accrue. Executives hear stories that Operations Research (sometimes called OR or Opsearch) has made savings that run to the hundreds of thousands of dollars, often into the millions. Actually, a growing segment of business management is putting Operations Research to dramatic and profitable use and many more businessmen are teaching themselves to apply this new and powerful technique.

Training courses and opportunities fall roughly into three classes:

1. Company-held indoctrination or popularization courses for executives, designed to give a basic under-

standing of OR and how it can best be applied.

2. Advanced indoctrination in the OR techniques of the scientists and technically trained executives who will actually carry on Operations Research within the company.

3. Familiarization conferences being held by management organizations and educational institutions all over the country.

North American Aviation, Royal McBee and Jones & Laughlin Steel are holding popularization courses running as long as ten weeks for executives. Similar courses for several hundred executives in affiliates of Standard Oil of New Jersey are being followed up by advanced scientific courses for about 100 scientists and technically trained executives. Thousands more have had their first taste of OR in familiarization courses given by such institutions as Stanford, M.I.T., Texas A. and M., Case Institute of Technology at Cleveland and others. This year's meeting of the Operations Research Society of America—practically a succession of indoctrination courses—was the largest in its history and plans were made to hold an international meeting.

The demand for trained OR people has become so great that they are

practically unobtainable. Ads fill the professional publications. Every day, the colleges receive requests they can't fill and files are full of job offers. Operations Research specialists are spread deplorably thin and most of them are busy day and night with new work piling higher and higher on their desks. What would be a normal rate of growth in the profession is retarded by this lack of trained people. And trained Operations Research specialists are usually scientists with master's and doctor's degrees.

Partly because companies keep their Opsearch activities dark to outwit the competition—projects are as closely guarded as the first stages of the atom bomb—and partly because the science is so new and unorganized, an appraisal of OR's present spread has to be in the nature of the educated guess.

One measure of its extent is the rapid growth of the Operations Research Society of America. Formed in 1952, it has snowballed to 1,500 members, most of them practicing Operations Research or interested in some way. In addition, there is the Institute of Management Sciences with a membership of around 1,000, many of whom are also directly interested in OR.

Leaders in these societies estimate that, taking OR in its broader sense, between 200 and 300 companies—including most of the top corporations in the country—are practicing Operations Research in one form or another. The growth of OR as a recognized discipline has had the effect in many big companies of formalizing the technique already in use in a single department, or perhaps pulling together scattered activities of an Operations Research nature in various departments and synchronizing them.

One official of the Institute of Management Sciences estimates that current expenditures in the field run to more than \$40,000,000 and his slide rule tells him that this supports about 2,000 specialists doing some form of work that falls under OR disciplines. Half of this work, he estimates, is on military contract and half on straight business budgets. Martin L. Ernst, Secretary of the Operations Research Society of America, goes along with this estimate, but he believes there are an additional 2,000 specialists in U. S. business today engaged in related phases of the management sciences which one day will be collected under the heading of Operations Research.

The latest available break-down on the way U. S. business is using OR is provided by a survey con-

ducted by Case Institute of Technology. Questionnaires were sent to 729 people in 310 companies—the 729 selected from the membership list of the two OR societies and from registration lists of OR conferences. Replies were received from 147 (or 47 per cent) of the companies addressed. Of these, 85 were using OR and 62 were not.

A more recent survey by the *Operations Research Digest*, one of the new publications in the field, failed to turn up more than 88 companies whose work had been reported, but its editors laid this in part to the confidential nature of most of the projects under way.

The Case study gives a scientific sampling of where OR is being used, and how. Employing the new science are leaders in transportation, aircraft manufacturing, industrial equipment, mining, basic metals, chemical processing, electrical and electronic manufacturing, textiles and groceries, not to mention makers of aircraft, automobile, rail and marine parts—among them General Electric, Standard Oil of New Jersey, RCA, IBM, Procter & Gamble, American Airlines, United Airlines and most of the major West Coast aircraft manufacturers.

Their uses of OR break down into the following departments of business activity:

	per cent
Production	29.5
Sales	16.6
Accounting	12.4
Executive	9.8
Transportation	7.8
Purchasing	7.8
Finance	7.3
Human relations	4.1
Advertising	3.6
Other	1.0

Such companies have been using OR for such widely varied tasks as inventory control, plant layout, market forecasting, quality control or planning the location of warehouses. But the greatest value of OR, its proponents insist, is its application throughout all pertinent departments of a large organization to give its management a simple yet comprehensive view of the entire complex system.

Says Mel Hurni, who heads up a broad study of OR applications in General Electric:

"In GE, there is a growing understanding that the real power of Operations Research (we call it Operations Research and Synthesis) lies not so much in the solution of individual problems as in providing an increasingly clear vision of a business as a whole—a basis for an understanding by all our managers of their own responsibilities within the

almost autonomous departments that they run."

Today's businessman, such OR men like to point out, can no longer fly by the seat of his pants; he needs an electronic navigation system as much as a modern airline.

And that, they say, is OR.

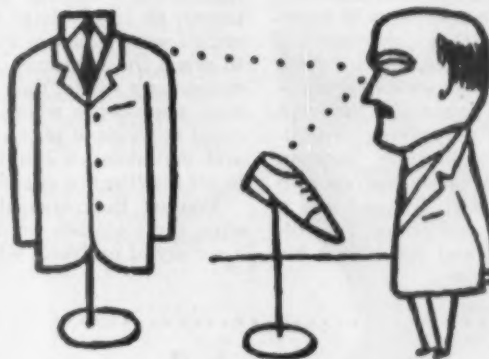
For the large and puzzled majority still struggling to understand OR, this is an elementary report, strictly in layman's language, to give an idea of what the new science is all about, how far it has gone to date and how he can use it himself.

Opsearch suddenly began to take hold as a comprehensive science about five years ago and has been spreading ever since.

However, some cagey initiates will readily perceive that many of its parts are strangely familiar.

$$B(r) = \frac{b(A+S) \{qS_j + (1-n)S - m\}}{AS + (A+S)dS_j} + \frac{af}{a+f}$$

or the
case of the manager's bonus



A shoe manufacturer operating a chain of retail stores carried a line of clothing to help pay the overhead. Operations research team, studying how to increase the return from the retail stores, discovered the return from shoe sales to be twice that of clothing. Yet under bonus system, store managers earned three times from clothing what they'd earn from shoes. New bonus stimulated shoe sales and sent the return on shoe investment up

"There's nothing new about a great many of the things we do in Operations Research," says Charles P. Chadsey, of Johns Hopkins University, Managing Editor of the *Journal of the Operations Research Society of America*. "But what we now call Operations Research has formalized something that has existed in bits and pieces for a long time. But what is new is that there has sprung up a new technique of team research; it leans heavily on the mathematical sciences but it's really the thinking use of all the disciplines of science."

Indeed the basic principles behind Operations Research are far from new. It is reported that one night in the course of one of his campaigns, Julius Caesar, on a routine inspection of his camp, became interested

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in the dish-washing procedure. He noticed that two basins were used, one for washing and one for rinsing. As he watched, he saw that the washing operation took twice as long as the rinse. This resulted in a long line behind the washing basin and an idle capacity at the rinsing sink. Caesar ordered two wash basins installed. This action made possible the full use of the rinsing capacity and cut the dish-washing line down to half. Operations Research specialists use the same technique in applications of what they call "queuing theory," for example, to cut down waiting lines at factory tool cribs.

Mendel used operations research in seeking the underlying orderliness in the apparently random characteristics of peas from one generation to the next. Mendel was a mathematician and, once he collected his data and sorted out his

various ratios, he was able to perceive the mathematical pattern underlying the whole phenomena and so developed what we know as Mendel's Laws.

Throughout history, similarly scattered examples may be found. But Operations Research really got started in the first days of World War II. Then we faced an enemy who had an abundance of the latest equipment, plenty of troops and well laid plans. He had overwhelming power; we had little or nothing. Scientists were called in who were able to grasp the workings of a military system as a whole; they sensed there were approaches where the complicated methods of physics, chemistry and mathematics could be utilized to pit intelligence against materiel.

Pooling their specialized knowledge, the scientists went to work on a variety of problems with spectacu-

lar results. (Some of the most spectacular have not been released even yet.) They redesigned the British radar warning network; revised the ratio between flying time and repair time for interceptor planes; determined the most efficient convoy size to minimize the loss of merchant shipping; devised tactics which increased submarine sinkings by more than 50 per cent.

Two members of the team which studied the submarine problem, Prof. George E. Kimball, of Columbia University's Chemistry Department, and Prof. Philip M. Morse of M.I.T., collaborated on a book entitled "Methods of Operations Research" which became a standard text in the trade. Dr. Morse's course in Operations Research at M.I.T. is believed to be the first in the field. After the war, it became apparent that such OR pioneers had produced a body of shared, tested and teachable doctrine. It was plain that what they could do for one general type of operation involving large numbers of men, machines and repetitive incidents, such as bomber flights, convoy sailings, training routines and the like, they might also do for another type of operation such as production runs, purchases, sales and shipments.

In the scramble for postwar business, OR got off to a slow start, but by 1951 it was under way and cropping up in many fields.

A case reported by Arthur D. Little, Inc., illustrates how it operates in sales.

This work was done for a company manufacturing a wide line of men's and boys' shoes selling through jobbers and dealers. But to get a wider distribution where such outlets are weak, the company also operates a chain of some 300 retail stores. To help pay overhead, it also carries a line of suits, coats and men's furnishings. Company executives came to Little with the complaint:

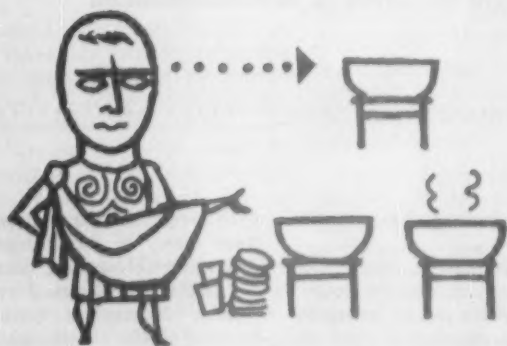
"Our retail stores are not giving us the return on capital which we can get from other divisions of the company. Can you find out how we can increase the return and how much?"

An operations research team went to work. It included a mathematician, a physical chemist and a statistician. A market research specialist and a junior executive representing the client company worked with them.

First step was to analyze profits in terms of the volume of shoe sales and the volume of clothing sales. Then step by step, using analytical mathematics, they set up a model of the company's operations.

$$W_2 = \frac{\lambda^2}{\mu(4\mu^2 - \lambda^2)}$$

or the
case of the Roman KP



On a routine camp inspection, according to report, Julius Caesar saw troops cleaning their mess kits; a long line at the wash basin and idle capacity at the rinsing sink. He installed two wash basins, putting the rinsing sink in full capacity operation and cutting the dishwashing line in half. Opsearch specialists use the same technique in applying the queuing theory to cut down lines at tool cribs

The analysis showed that each dollar of clothing sales produced eight cents profit and required 80 cents annual investment, so that the return was ten per cent. It showed that each added dollar of shoe sales produced a profit of 18 cents and required 90 cents annual investment, yielding a 20 per cent return.

In other words, the company's return on investment from shoe sales was twice that from the clothing sales.

On the other hand, the store managers' bonus system was such that they earned nearly three times as much from a given volume of clothing sales as they would have earned from the same volume of shoe sales.

When the team reported these findings, the company redesigned the bonus plan in such a way that it served as an incentive for the store managers to sell shoes rather than

emphasize clothing. Return on the shoe investment went up.

Now take an example from production.

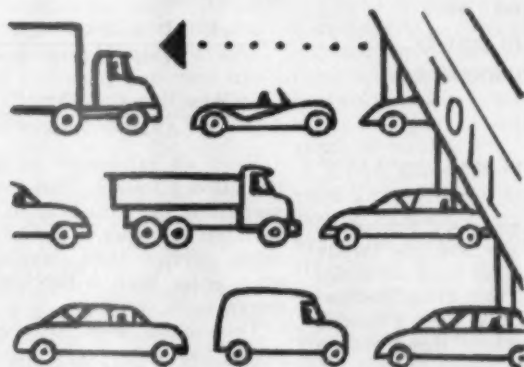
This shows how one small problem in a single unit of a company spreads to a whole department. A company making wire rope needed to know the most profitable speed at which to draw steel rods down to wire of the required gauge.

Faster drawing was desirable in itself, but it tended to cause more surface defects in the wire; these either caused costly breaks in later drawing operations or caused the wire to fail in inspection. Analysis of factory operations showed that these wire defects were more than twice as costly as the company had believed.

It was found that costs could be reduced by spending more money in earlier steps in the process; steel-

$$P(x) = e^{-m} m^x / x!$$

or the
case of the busy tollgates



The tools of the probability theory were applied to help the New York Port Authority find a satisfactory traffic delay level. An OR team calculated the best relationship between traffic volumes, toll booths and grade of service, made 512 predictions of booth requirements at Lincoln Tunnel for every hour for a week. Schedule was followed without hitch; no excessive backups occurred, autoists reasonably happy



Out of This Whirl A NEW PACKAGE POLICY To End Confusion

For Merchants, Retailers and Wholesalers

This new policy combines fire, extended coverage, burglary, water damage, transportation and other perils to which your merchandise is exposed into one package. You have just one policy to keep track of, one expiration date, one premium, one agent, one company. In addition, you receive either substantial savings over separate policies or much broader protection. Get *all* the facts from an agent representing one of the Phoenix of Hartford companies.

WHEN YOU BUY INSURANCE

BUY INTEGRITY

 **Phoenix**
OF HARTFORD INSURANCE COMPANIES

All forms of Insurance except Life

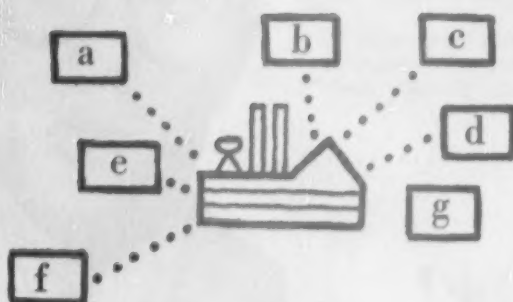
The Phoenix Insurance Company
The Connecticut Fire Insurance Company
Equitable Fire & Marine Insurance Company
Minneapolis Fire & Marine Insurance Company
Reliance Insurance Company of Canada
Executive Office: Hartford 15, Connecticut

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$$x = \frac{x_a A + x_b B + x_c C + x_d D + x_e E + x_f F + x_g G}{A + B + C + D + E + F + G}$$

$$y = \frac{y_a A + y_b B + y_c C + y_d D + y_e E + y_f F + y_g G}{A + B + C + D + E + F + G}$$

or the
case of the center of gravity



The single plant of an electronics manufacturing company was destroyed by flood. Problem was whether to rebuild at old site or at new one making effective use of seven widely separated warehouses. An OR team borrowed the center of gravity technique from physics and found the ideal location

making, rod forming, wire drawing and the first bobbin-winding step. A model of the whole factory operation was made, to show how the series of operations was interrelated in terms of cost. Experimentation rounded out this model so that it was possible to calculate accurately the effect of change in the drawing operation both on the breakage density in the whole series of steps and on the total production costs.

But most often the OR study is extended beyond the production department or the sales department to all related facets of the company operation. A good illustration is the work Little did with a big petroleum company on the physical distribution of its products. The study covered the refinery, the storage and transportation facilities, including tank cars, pipe lines and tanker fleet.

"First we had to study the distri-

bution phases separately. For example, we had to see how the tanker fleet was affected by such variables as the weather. Then to understand the whole thing, we used a model, first trying the whole thing out on paper and then simulating it on machines. After we got the thing working, we were able to make improvements by providing optimum scheduling and optimum turn-around timing."

With this preliminary look at what OR does, let's take a brief glimpse at its tools and techniques.

The tools of OR are largely mathematical-conceptual, difficult to explain without a blackboard full of hieroglyphics: algebra, calculus, differential equations, geometry, mathematical statistics, probability theory, symbolic logic and the like.

Operations Research in a large majority of its cases seeks to dis-

cover regularities in apparently unrelated or random activities. The pattern of regularity is generally presented as a "model." The commonest type of model is a mathematical formula, a simplified representation of the system under study. This formula may be written on the back of an old envelope, or it may be worked out on a million-dollar computer.

However, in some cases, physical models are used.

A few of OR's techniques are explained and illustrated here in highly simplified form. But first, a simple example—scarcely high level Operations Research—will illustrate the nature of this new approach.

An electronics manufacturing company owned seven warehouses with varying capacities at widely separated locations. Its single plant was destroyed by floods. The problem was whether to rebuild at the old location or find a new site that would make the most effective use of the existing warehouses. The problem was tackled by borrowing the center of gravity technique from physics.

Minimizing freight charges was the objective. Assuming

1. Rates to be equal in all directions, and
2. Routes having the same divergence from the straight line ideal, the ideal plant location was given by the formula:

$$x = \frac{x_a A + x_b B + x_c C + x_d D + x_e E + x_f F + x_g G}{A + B + C + D + E + F + G}$$

$$y = \frac{y_a A + y_b B + y_c C + y_d D + y_e E + y_f F + y_g G}{A + B + C + D + E + F + G}$$

Such an expression in itself can be called a model. This example is simplified by reduction to a single variable. As other variables (freight rates, service time, spoilage rate, etc.) enter such a problem, it becomes more complex.

Techniques used to develop the model include:

Linear programming

By definition, linear programming is a mathematical method that juggles a number of alternative factors—all related and dependent upon each other—to find the best combination.

Applied in industry, linear programming is a technique for determining the best (optimum) allocation or use of limited resources (capital, plant capacity, advertising dollars, etc.) to achieve a selected objective (lowest cost, highest profit, greatest volume, etc.).

Linear programming assumes for the most part a linear or straight

line relationship among variables. It requires that the limits of variation be fairly well established. Arithmetical computations are simple, being confined to multiplication and addition. But since it is most often used to handle a complex situation with many variables, the volume of computations is often extensive and in many cases can best be done on a computer.

Linear programming is most often applied to:

- ▶ Finding lower distribution costs (factories to warehouses),
- ▶ Better utilization of production facilities,
- ▶ Better sales planning,
- ▶ Improved price-volume relationships,
- ▶ Improved product mix.

A highly simplified example is used by Booz, Allen and Hamilton, management consultants, of Chicago, to illustrate linear programming for its prospective customers:

A sugar refining company had three factories and four warehouses all geographically separated. A problem was how best to use production and storage facilities to achieve minimum freight costs—in terms of marketing outlets. Opsearch used linear programming to obtain the answer.

A large national company distributing a packaged consumer product from four main plants to more than 50 branch warehouses used a linear programming analysis to determine the efficiency of its shipping pattern. The task of gathering data was tremendous: Determining precise data on manufacturing costs at varying production levels in all the various plants, freight costs between all plants and all branches and variations in market demand rates took 60 per cent of the OR team's time.

Once set up, the problem was run out on UNIVAC. This computer operation took less than ten per cent of the time. About 30 per cent of the OR team's effort was put in after the computer runs, analyzing the output data and converting the selected pattern of distribution back to practical business reality.

Savings indicated by the shift in distribution—with no change in facilities location or level of productive capacity—totaled more than \$500,000 during the first five years of operation.

Queuing theory

Queuing theory, another principal OR technique, develops relationships involved in waiting in line—customers awaiting service, planes waiting to land, machines awaiting

the repair crew, products awaiting inspection and so forth.

Queuing theory is commonly applied to:

- ▶ Customer service
- ▶ Traffic flow
- ▶ Facilities planning and layout
- ▶ Machine maintenance
- ▶ Inventory control

For example, an electric company decided to build a factory to manufacture television sets and the company could define the required plant capacity. In this case, the queuing technique was applied to determine the best balance, in terms of cost, between the assembly lines and servicing units (where the sets were tested and aligned) to minimize costly stack-ups of unserviced sets or improper utilization of service capacities.

Good examples of queuing theory are hard to find because companies guard their results so carefully from competitors. However, a study of traffic delays at bridge and tunnel toll booths of the New York Port Authority provides an excellent illustration.

More than 250 traffic officers are used to collect tolls, and payroll costs exceed \$1,000,000 annually. With all this money at stake, the Authority was eager to find the level of traffic delays giving the best compromise between economy and good service.

The tools of the probability theory were applied to solve the problem in quantitative terms and an OR team came up with what seemed to be the best relationship between traffic volumes, number of toll booths and grade of service.

A trial was conducted at the Lincoln Tunnel. The numbers of toll booths required every hour for the entire week were predicted in both directions of traffic.

This entailed 512 predictions of booth requirements. Each toll collector was given a slip showing his booth assignments and relief periods and was instructed to follow the schedule strictly.

All during the week, these prearranged schedules were followed without a hitch. At no time did excessive backups occur and at no time did reliefs have to be deferred. Everyone was happy—as happy as one can be in traffic.

Search theory

Search theory is used to minimize the effort required to locate an object. It arose chiefly from the military problem of locating enemy submarines, given only limited detection resources. To date, search

what's a *Truck* got to do with fried chicken?



● If you like good fried chicken, thank the truck that brought it from farm to your grocer's freezer. Last year 91.4% of all dressed poultry was shipped by truck in its journey from processor to market. Over 700 million pounds were transported under refrigeration insuring the freshness and flavor of your fried chicken. Processors of this "All American" food must have dependable truck refrigeration. That's why important poultry shippers everywhere rely on Thermo King truck refrigeration.



Thermo King

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THE AMERICAN TRUCKING INDUSTRY, WASHINGTON, D. C.

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theory has mainly been applied in military situations but it has also had limited application in specialized marketing situations. However, Professor Kimball says it has possible uses in advertising analysis and might well be applied to the construction of research and development programs where the object is to find new processes. A pharmaceutical concern, for example, might use it to find new antibiotics, he says.

Game theory

Game theory is basically theory on how to select an optimum strategy in the face of an opponent who is trying to do the same thing, whether in war, poker or business. It establishes a mathematical model that can be manipulated for determining a player's best strategy and most likely gain.

For example, suppose you're the president of an auto company and want to know the best date to release your new model. If you release it too early, you cut into the profits from the old model. If you release it too late, you run the risk that a competitor may come out before you do and cut into your profits. Game theory might provide a means of telling you when to release.

Information theory

Information theory consists of analytical processes transferred from the communications field to Operations Research. It evaluates the effectiveness of information within a given system. Although so far it has been applied only to electrical communications networks, it has had an indirect influence in stimulating the examination of business organizational structures with a view to improving information or communication flow.

It could be used, for example, to design an optimum filing system or a library for a company with an exceedingly large number of papers or other reference material.

Monte Carlo method

Operations Research, especially in the basic or experimental area, often employs what is essentially a trial and error method of repeated calculations to discover the best solution. This is especially true when a great number of variables is present, with interrelationships so extremely complex as to forestall straightforward analytical handling.

The Monte Carlo method is often used in connection with the queuing theory. For example, the length of the waiting line in a supermarket will depend on the rate at which people arrive, how much they buy and how many articles they buy. It also depends on the character and

skill of the cash register operator. Due to the uncertainty of the number of people who will arrive at any particular time, the OR man may use numbers out of a hat to simulate these arrivals—or he could spin a roulette wheel to get these random numbers. Hence the Monte Carlo method.

The role of the computer

While Operations Research is not fully dependent on the use of computers, the characteristics and capacities of electronic computers have greatly enlarged the possibilities of OR development. The use of computers has made it possible to tackle OR operations heretofore impossible because of the volume of calculative effort and has, of course, made possible greater speeds and lower costs.

Getting into OR?

Suppose a business wants to get into OR. How does it go about it? How does it find the experts? Who is teaching OR? How long does it take? How large should the team be? Where do you start? What is the future of OR in business?

To take them one at a time:

How does a firm get started?

Most of the practicing specialists today agree the best way to start is to go to a consulting firm or an educational institution which does consulting work with industry. Perhaps a half dozen consulting firms today are specializing in OR work. In addition, a large share of the big management consulting firms have OR specialists or departments.

Information on good consultant firms can be obtained through the Operations Research Society of America, the Institute of Management Science or the Association of Consulting Management Engineers.

Basic characteristics of Operations Research

1. Concerned with problems of business operations as a system
2. Utilizes the scientific method... is analytical, experimental, quantitative
3. Borrows successful methodologies from the various branches of science
4. Usually involves model building
5. Predicts effects of alternative courses of action

Most of these firms require the company to assign an engineer, accountant or a scientist from within the organization to work with them—a young chemist, electrical engineer, physicist or perhaps a biologist. The main requirement is that he be a good scientist—and have some talent for this kind of work.

Another way is to hire a young specialist trained in OR work at one of the universities—that is, if you can find him.

It is also possible for a company to turn loose its own scientists or engineers and let them work it out for themselves. It just takes longer, that's all.

Who is teaching OR?

About 20 colleges and universities are giving courses in OR or conducting basic or applied research into the subject. The best known are the Case Institute of Technology, Massachusetts Institute of Technology and the University of Pennsylvania, all of which have courses leading to a graduate OR degree. Columbia, Johns Hopkins, Cornell, Penn State and Carnegie Tech, among others, give OR as an adjunct to industrial engineering, and a dozen other colleges including Cornell, Ohio State, the University of Chicago, and the University of California, have one or more courses.

Short specialized training courses are also offered by Stanford Research Institute, Armour Research Foundation, Battelle Institute, Midwest Institute and the Operations Research Institute.

How long does it take?

Most OR specialists say it takes a year and a half of continuous work before a man can work independently. Going into OR represents a long-range investment, they say, like getting into the computer business. It requires a couple of years' planning. Specifically, it takes six months to a year to complete most OR projects.

How large should the team be?

A company should start with a team of at least two people, in the general opinion of these specialists. OR men gain by the exchange of information. The mathematician looks at it one way; the physicist looks at it another way, and the biologist still a third way. Combine these different ways and they spell the best approach. If a team consists of more than five people, it becomes cumbersome. A team of three or four is usually considered to be about the right size.

Where do you start?

You start where good data are

available, where results can be measured and where there is a fairly high development of tools. Usually this means the production department. Marketing is a harder area and should be tackled later.

How much does it cost?

OR is expensive.

"If you use an outside agency, the team cost will be between \$3,000 and \$10,000 a month," says Dr. Russell Ackoff, an OR pioneer, "and this doesn't count the cost of your own representatives to work with the OR team."

John W. Pocock, of Booz-Allen and Hamilton, quotes this figure:

"An OR team will cost from \$14,000 to \$30,000 per professional man-year with the average cost probably exceeding \$20,000. The cost of solving single problems probably ranges from \$10,000 to \$100,000."

Another OR authority puts the individual cost figure at \$3,000 per man month. This brings the salary cost for a team of four to \$12,000 which adds up to \$144,000 a year. This doesn't take into account such things as traveling and clerical expense, he says.

These figures make it appear that OR is for the big company and, as of now, there's truth in this conclusion, though Dr. Ackoff says he thinks small businesses will soon be using OR through their regular associations.

"But OR is for the big company for a while—a company with gross sales of \$10,000,000 or more," says Harry Wissmann. "However, we're developing principles which will make OR less costly. Particularly in purchase and production planning and inventory control, we're establishing bodies of knowledge that help us work more economically."

"Though we're still doing research to develop principles, we're turning out useful, practical stuff as we go along. The stuff we do in established fields will be less research and more and more application of techniques. Then the smaller company can have its thinking influenced by OR."

What is the future of OR?

It's possible to get up a good hearty argument on where OR is headed whenever specialists get together.

The principal question seems to be, "Is OR trying to take over management?"

Dr. Ackoff says, "Emphatically NO! Management is going to take over OR. Operations Research is evolving a technology that the manager of tomorrow will be expected to know—just as today he is expected to know something about finance, engineering and electronics. The OR

man will evolve easily applicable techniques and then move on. The average OR man is a scientist and he wants to remain a scientist. He doesn't want to be an executive."

However, Dr. Davis Hertz, with the Popular Merchandise Company, of Fairlawn, N. J., one of the well known OR practitioners, is of a different mind.

"I think the OR man has to take on the executive's problem," he says. "He not only must give the executive a decision but he's got to think it through just as though he were the executive himself. He's got to put himself in the executive's shoes."

"For this reason, I think the OR man is going to move up in management, just as men who began as engineers and chemists have moved up. The future of the OR man will depend, of course, on how he affects profits. But as he has more important problems to analyze and more significant decisions to make, he will become more and more the executive and his way of thinking will affect the thinking of other executives."

Richard Neuschel, OR specialist for McKinsey and Company, can't buy this, however.

"The basic function of an executive is to get things done through other people," he says. "This skill he acquires through long training and experience. The training of a scientist as such isn't set up to develop executive skill in this sense."

What might be called the comprehensive view is expressed by Mel Hurni, of GE.

"The thing that scares the manager is this scientist coming in to make his decision for him—the computer issuing commands," he says. "But the managers can rest easy. Scientists will not and cannot take over because of the very nature of a business and of management. Decisions will always require judgment and anticipation of the future and imply a choice between risks. All the scientist can do is help maximize the manager's judgment by providing the manager with better tools and better knowledge."

"If you look at it this way, Operations Research is a tremendous stride in the direction of more effective utilization of the skills and talents of people. It's bringing intelligent people better information on which they can exercise that intelligence. Draw your own conclusions as to what this can accomplish in the world."

END

REPRINTS of "Operations Research" may be obtained for 15 cents a copy or \$10 per 100, including postage, from *Nation's Business*, Washington 6, D.C.

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We're spending \$50,000,000 to change the WEATHER

Future relief from storm damage is promise of research and programs already in motion

WEATHER control by man may be worth \$4,000,000,000 a year to business in the future.

Some meteorologists predict that man will be able to eliminate icing conditions and hailstorms, disperse clouds and fogs, produce rain and snow and calm down or divert hurricanes and other violently destructive storms. They predict that business will save \$2,000,000,000 annually in storm damage and gain \$2,000,000,000 in production. Whether or not this is visionary, today's facts show:

► Hurricane damage since 1950 totals \$1,769,000,000. In 1955 alone it reached \$967,000,000.

► The greatest research attack on the hurricane in meteorological history is starting this summer, with experimental beginnings already made toward modification of hailstorms, lightning and tornadoes.

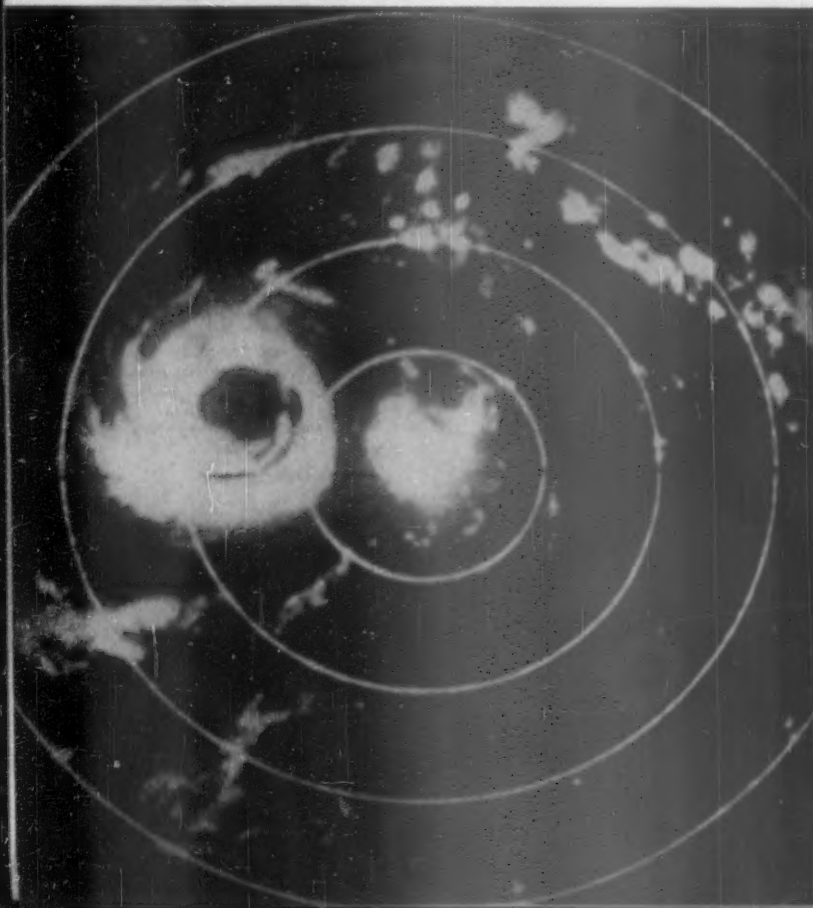
► Private firms, individuals, schools, communities and the state and federal governments are spending an estimated \$50,000,000 a year on control of the weather.

► Approximately 200,000,000 acres were subjected to rainmaking in 1954-1955 as compared to about 30,000,000 acres under irrigation. Experimenters have increased winter and spring rains from nine to 17 per cent.

Since 1950 we've had **14** major hurricanes—coming **OFTENER, EARLIER AND FURTHER INLAND.**

Question for the future: Will damaging hurricanes like 1955's Connie, Diane and Ione still be considered "acts of God" if such acts are influenced or altered by man?

◀ *A hurricane looks like this on a Navy radar screen*



► Ten states already have weather control laws. Three others have laws promoting research in weather modification.

► Legal problems are approaching a showdown. Emerging legislation and case law should make the next 12 to 18 months critical to man's control of the weather.

So far as hurricanes are concerned, here is the case history of the most controversial one in the record book:

On the evening of Oct. 13, 1947, a Navy hurricane-hunter plane dove into a tropical storm swirling out in the Atlantic about 300 miles off Daytona Beach, Fla. The plane was part of Project Cirrus, an experimental group attached to Armed Forces weather control research.

This plane seeded the hurricane; that is, doctored it with chemicals. At the time, the storm was moving farther out to sea in a northeasterly direction. Six hours later it radically changed its course. A day later it slammed into Savannah, Ga., causing damage estimated at from \$3,000,000 to \$5,000,000.

The Defense Department classified all information concerning the matter and the public never did hear much about it.

But what happened?

Did seeding change the storm's course? Or would it have changed

anyway? Weather experts say that about 13 per cent of Atlantic hurricanes do make unpredictable course alterations, although few, if any, shift as sharply as did the 1947 storm.

Some meteorologists scoff at the notion that the seeding made any real difference. But Commander Daniel S. Rex, who as chairman of Project Cirrus' operating group was an eyewitness to the affair, reported that the experiment had modified the hurricane's internal elements over a storm segment of about 300 square miles; and this in spite of the fact that the most desirable seeding areas had not been reached due to failure of the plane's homing devices.

Dr. Irving Langmuir, a pioneer in weather-making and cloud physics, Nobel prize winner in chemistry, and for many years head of General Electric's research laboratory, is another who believes the storm was actually affected by the hand of man. Last year Dr. Langmuir told an Albuquerque weather control symposium: "I think there was a connection between the seeding and direction change."

In any case, as Dr. Langmuir added, "they didn't try it again."

To this day they haven't. So far as is known, that was the only effort by Americans to divert an Atlantic hurricane.

All indications, however, point to

the fact that this seeming inertia is rapidly coming to an end. Millions of dollars in government funds have been channeled to the National Hurricane Research Project which will operate out of West Palm Beach, Fla., this summer.

Dr. Francis W. Reichelderfer, chief of the U. S. Weather Bureau, is cautious about predicting the future diversion or weakening of dangerous storms; but other weather experts, both in and out of the government, admit that this is an ultimate goal. In fact, a big part of the pending research program will be devoted to determining the volume and characteristics of supercooled moisture in hurricanes—knowledge of which is considered the key to their moderation.

Moreover, the Weather Bureau recently asked federal lawyers for an opinion as to the government's liability for damage in connection with hurricane control. The answer came in May. While there could not be total immunity, the opinion read, government weather controllers acting under statutory authorization need not worry unduly about suits brought under the Federal Tort Claims Act.

The reason for the weather controllers' concern over hurricanes becomes apparent upon a study of weather statistics.

These show that Atlantic and





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WHERE BIG THINGS ARE HAPPENING FOR YOU!

WEATHER continued

Caribbean hurricanes are coming oftener, earlier, and further inland.

Since 1915, Weather Bureau figures show 174 hurricanes, an average of 4.2 a year. However, 45 of these storms have occurred since 1950, an average of 7.5 a year. In 1955 there were nine.

Fourteen major hurricanes have hit the U. S. mainland since 1950, an average annual increase of 21 per cent. Hurricanes Carol, Edna and Hazel of 1954, and Connie, Diane and Ione of 1955 were, says the Weather Bureau, "examples of this unusual westward shift in hurricanes."

Sixty-one per cent of the total hurricane damage in the country in the past 40 years has come since 1950.

And the hurricane season seems to be getting longer, or beginning earlier. Historically, hurricanes run from midsummer to midfall. But in recent years three have developed prior to July—in May, 1951, in June, 1954, and in 1955 Weather Bureau records show a full-force hurricane blew up in the Lesser Antilles in January. Experts had to go back to the West-East log of Christopher Columbus in 1493 to find another like it.

The Weather Bureau says the reason for all this involves abnormal upper wind conditions, plus a northerly shift in prevailing winds over the Atlantic at all latitudes. But whatever the reason, the condition is catapulting the weather-makers-and-modifiers into the limelight.

While the hurricane is perhaps the most dramatic area in which weather control is proceeding, it is by no means the only one nor even the area in which progress is most advanced.

President Eisenhower's two-year-old Advisory Committee on Weather Control, headed by Capt. Howard T. Orville, USN (ret.), now of Bendix Aviation Corporation, pointed out in its first report that experiments in rain-making are already producing increased winter and spring rain of between nine and 17 per cent in the Pacific Coast areas evaluated by the committee.

Besides rainmaking, the committee disclosed that much broader studies are under way. These include experimental beginnings toward control of hailstorms, lightning, line squalls and tornadoes.

It has become obvious that weather control, already a multimillion dollar business, is well on its way to becoming an important and promising new industry. In some opinions

it has greater implications than atomic energy. How much money is now going into weather control is hard to determine but:

It is estimated that farmers and ranchers are putting from \$5,000,000 to \$8,000,000 into rainmaking. Cloud seeding annually is running between 200,000 and 500,000 square miles, or from 6.5 to 15 per cent of the total United States area.

The federal government is earmarking a probable \$5,000,000 to \$10,000,000 annually in the investigative phases of weather control, which includes the research activities of the President's Advisory Committee, the Weather Bureau, the Forest Service, and the Armed Forces.

Add the weather modification expenditures of big water-use industries such as pulp mills and chemical manufacturers, those of active rain-making utilities such as Pacific Gas and Electric or Southern California Edison, those of various states seeking to control forest fires or to maintain minimum snowpack levels in the interest of hydroelectric power, those of the many municipal water companies in search of new reservoir supplies. Add the money going into research from state governments and educational institutions.

Add the unpublicized probings of other industries or individuals: fruit growers interested in frost prevention, airlines interested in fog dispersal, engineers interested in flood control. Add the activities of the Defense Department which is vitally concerned with weather as a military weapon.

Maybe \$50,000,000 a year is a conservative guess.

But weather control, like all new industries, has its headaches and growing pains. They are inclined to be special ones, possibly because weather modification is the first industry of great potential to be based entirely on man's intrusion upon nature.

The uncertainties to be ironed out and the decisions which must be made include:

1. The role of government.

Must weather control become a monopoly of government, either state or federal or both? Will it become a rigidly controlled private enterprise, or simply an industry stimulated by government grants with only general controls imposed?

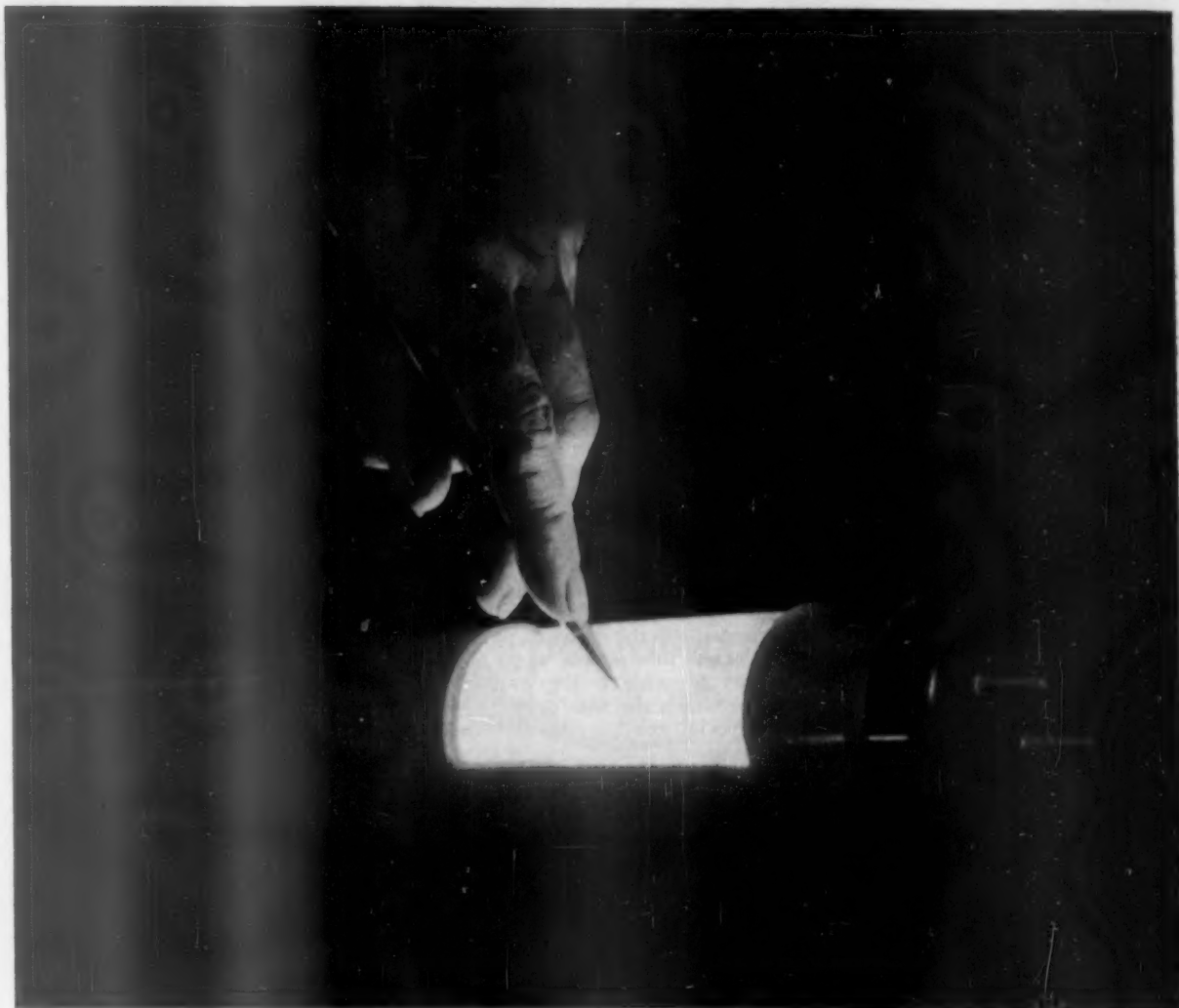
2. Economic factors.

How great is the liability of the weather-maker going to be for damage caused others, and will private industry take the risks? What happens to the millions of insurance contracts now protecting property

how to judge a fluorescent lamp

... point no.

6



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WATCH WESTINGHOUSE
WHERE **BIG** THINGS ARE HAPPENING FOR YOU!

WEATHER

continued

owners against "acts of God"—will they still be good when such acts become influenced by the hand of man? Will special taxes be levied to support weather control operations?

3. Individual rights.

How far will the rights of the individual be protected in regard to weather control? This involves his possible property or use rights in the atmosphere over his land, plus any rights for damages where man-induced weather hurts him.

4. Controlling law.

Whose law is going to control when disputes arise over weather alteration, federal or state? If the latter, which state, where more than one is affected?

A variety of significant developments in recent months have borne directly on some of these questions.

More important is the belief of those closest to the matter that the next 12 to 18 months will see scientific, legislative, and case law developments that will be critical in shaping the future character of weather modification.

Thirteen states have enacted weather laws since 1951.

Ten of these actually regulate weather control to greater or lesser degree: Arizona, California, Colorado, Massachusetts, Nevada, Oregon, South Dakota, Utah, Wisconsin and Wyoming.

In addition, New Hampshire, New Mexico and Oklahoma have enacted legislation to promote research into weather modification.

Most of the regulatory acts require the filing of scientific data with the state. Almost all require licensing by the state, upon the payment of fees, for anyone going into the weather control business. Usually there is a requirement that notice be given of the time and place when cloud-seeding—or any other phase of weather moderation—is to be undertaken. Beyond this point, the acts diverge rapidly.

Arizona, for example, which regulates the manufacture and sale of weather control equipment as well as general operations, makes no effort to control persons who seek to moderate weather over their own lands for their own use.

Colorado requires would-be moderators to prove their proficiency at their trade before licensing.

Massachusetts makes all weather control a matter of public function and requires public hearings before granting certificates of authority to weather-makers.

Oregon requires that weather operators be able to pay up to \$100,000 for possible personal injuries brought on by their acts plus another \$100,000 for possible property damage.

South Dakota provides that if 51 per cent of the property owners in any county vote for it, the county may impose a special tax to finance weather moderation services.

Wyoming, which requires all weather moderators to register annually with a Weather Moderation Board, specifically exempts the state from liability in regard to any weather-making activities.

Some of the states claim ownership in the clouds over their territory at any given moment; that is, they claim ownership in moisture in the air. Some of them try to apply the same use or property rules to this moisture as to water running on the land or under the ground. Some of them insist on reciprocity clauses which prohibit weather control operations within their borders for the benefit of persons outside the state—unless the adjoining state is willing to reciprocate.

Of the state statutes dealing with weather control, however, none attempts to spell out all the rights and liabilities of individuals, of the entrepreneurs in the industry, or of the state. Only four refer to them at all.

This is one of the stumbling blocks which the attorneys general and special weather commissions of

owner to claim trespass against someone who brings mountain rain for the benefit of a thirsting downstream truck gardener? Is it reasonable for the owner of a damaged ship to sue the government for negligence in diverting a tropical storm out to sea?

Such questions may have to be settled in the courts rather than by legislation. Until recently, though, the courts have shied from weather control cases, no doubt because they have had so little criteria for evaluating what is or is not competent evidence. In other words, the problems of proof have been, and still are, considerable.

But the decisions are beginning to come.

The first big one involved a Catskill country club which tried to enjoin New York City from rainmaking in 1950. New York had a water shortage that year, so it hired a Boston rainmaker to fill its mountain reservoirs. The club feared that unseasonal downpours would drive customers away. It lost its case on appeal in the state supreme court.

The next important decision involved six Kansas and Missouri business firms which sued Uncle Sam for \$1,000,000 in damages because the Weather Bureau failed to predict accurately the big Kansas River flood of several years ago. The federal appeals court in St. Louis found for the Bureau, through its interpretation of the Federal Tort Claims Act; but the case, decided in 1954, is considered significant in that it reveals a trend of thinking toward government responsibility in regard to weather activities. The government is not necessarily immune.

The most recent case involved an individual who directly alleged damage by admitted acts of weather moderation. Last year Oklahoma City hired a Denver Corporation to cloud-seed on behalf of the city water supply. A rancher, who claimed to have been damaged by ensuing flash floods, sued the corporation. The jury, however, decided the Denver concern was not liable.

In these cases, then, the suing parties have not been successful. But note that the first case was mainly procedural and the plaintiff had not actually been hurt. In the second, neither party was a weather-maker; the only thing decided was the extent of an ordinary citizen's right to rely on a government forecast as being accurate. The third case was disposed of at trial level without opinion, which somewhat mitigates its value as legal precedent.

However, two landmark cases may be coming up for trial this summer or fall in New York. Both grew out



a dozen additional states are said to be studying before recommending legislation of their own.

One reason for the difficulty lies in the novelty of weather control when viewed in the light of established legal doctrines. Principles of ownership, negligence, trespass, nuisance, interference with peaceable enjoyment of one's own land, and so on, sometimes foster weird results when applied to weather control situations.

Is it reasonable, for example, for a farmer to claim property rights in a thunderhead passing over his cornfield? Is it reasonable for a city to charge a cloud-seeder who may have temporarily flooded some downtown street with creating a public nuisance? Is it reasonable for a resort

of the same situation which led the Catskill resort to sue New York. But in the new cases actual damage is charged. It is expected that some definitive law regarding the liability of weather controllers as well as individual property rights in the clouds may be made.

This still leaves one of the biggest practical questions unanswered. What is the federal government going to do about weather control?

Will Uncle Sam try to preempt the field or will he stay, as he has thus far, in the relative background?

Until now the Eisenhower Administration has not applied pressure for federal participation. Neither did the Truman Administration to any significant degree, although in 1951 and 1952 Sen. Clinton P. Anderson, Democrat of New Mexico, sponsored legislation for federal control of all weather making. His bills died in committee.

In 1954 Congress authorized the President's Advisory Committee on Weather Control. This group, initially set up for two years, was directed to look into various aspects of weather modification and report to the President. In its first report the Committee decided that "Federal regulatory legislation is not at present indicated." But it asked for, and is getting, a two-year extension for further investigation.

Those close to the over-all weather research picture think the committee is likely to recommend federal legislation of some kind before its 1958 expiration date.

Nobody knows yet what this will entail, but it is pointed out that constitutional authority exists for the broadest kind of federal supervision. The commerce power, the defense power, the treaty power, and the "necessary and proper" clause—any of these might be sufficient.

Much may depend on how state laws work out. Already, some experts say there is dissatisfaction with these laws—particularly those which depend on weather control taxes, or try to claim state ownership in the atmosphere, or apply ordinary water rights to the air. Such provisions are reportedly inhibiting rather than helping the development of weather control.

Those who favor a distinct federal voice in weather control feel that any proposed bill should specifically state whether Congress intends to preempt the field, whether it intends to assert co-jurisdiction with the states as it did during Prohibition, or whether it intends to stay in the background. They recognize, however, that practical politics may make strong specific legislation hard to come by.—PHILIP B. YEAGER



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POLITICS

continued from page 27

Congressmen won their present seats with less than 55 per cent of the votes cast. Control of Congress could easily be decided in these 95 districts.

Republican leaders are urging businessmen to become political workers at the precinct, ward and county level—where candidates are chosen and policies decided—and to alert front office personnel to participate in government affairs.

Bernard L. Lamb, director of the Republican field organization, and nine regional representatives are contacting businessmen who have indicated an interest in participating in local politics.

Top executives who cannot participate personally, according to Mr. Lamb, are urging junior officials to become more politically active in their neighborhoods, taking up issues with neighbors, working in the political machinery as election roll officials or challengers in voting booths, helping select the best possible candidates, getting out the vote, and engaging in other useful activity.

Manpower and effective physical work is more important than money to the Republican cause, Mr. Lamb says, adding that the biggest problem is getting people to work.

Democrats are making no special effort to interest businessmen in political activity, although they are making a strong bid for the small businessman's vote and support through a Small Business Committee at Democratic headquarters. Democratic officials say the committee seeks: 1, to get a Democratic platform and legislation that will help small business and, 2, get small business groups to support the party.

H. Bruce Palmer, president of the Mutual Benefit Life Insurance Company and of ECO, warns that business must take a new and long look at this matter of politics and government.

Businessmen have sacrificed much to help direct and maintain government, he says, yet they have neglected, left unattended, and given only a minimum of maintenance to politics, the substructure on which government is based.

"We have allowed leadership, nationally and in our local communities, to pass by default," he continues. "We have offered little in economic or political leadership.

"If we live close to the shadow of socialism today, this is one of the principal contributing factors."

The insurance company executive feels that political shyness on the part of businessmen cannot be reconciled with the American ideal of self-government.

Pointing out that more political decisions are made in party caucuses than in elections, Mr. Palmer is urging young men and women from business and industry to take jobs as precinct, ward and district leaders, as committeemen, and as active workers in both the Republican and Democratic parties.

Herschel C. Atkinson, executive vice president of the Ohio Chamber of Commerce, in whose state businessmen have been particularly effective in political action, recommends that business leaders be continually active, in both parties, as a way to meet labor's increased political activity.

Businessmen should not make the mistake of labor leaders who submerge their interests within one party, Mr. Atkinson advises, but should team up with other naturally allied groups to support those leaders in both parties who advocate sound economic principles.

Training, educational and practical aspects of business political action programs are illustrated in the three different approaches by the Effective Citizens Organization, Johnson & Johnson, and General Electric.

Effective Citizens Organization

ECO was organized by business leaders last year to help preserve self-government by encouraging individuals to participate in the government process. Local chapters are being organized in the belief that it is at the local level that the job of maintaining and strengthening the American political system must be accomplished. Information may be obtained by writing ECO at 300 Broadway, Newark 4, New Jersey.

ECO covers two areas: Political participation, in which it works through business and community projects; and political education, in which it works through educational institutions. It works with business and industry to:

1. Establish a recruitment program among business organizations to induce more qualified employees to join and work in a political party.

2. Organize Practical Politics Workshops on college campuses. The first has just been held at Princeton; others are planned at Southern Methodist and Michigan State. The goal is four workshops a year.

3. Get businesses to include in their corporate structure a high-level staff member to devote time to political matters which affect the corporation and its employees, the industry, and the communities in which the business operates.

4. Promote sound government programs which encourage employees to take an intelligent interest in government by keeping informed and taking political action at the grass-roots level.

5. Urge business to encourage its qualified employees to participate in public affairs by seeking and holding public office.

6. Encourage companies to provide nonpartisan factual information on current political issues for their employees.

Sound Government Committee

Johnson & Johnson and affiliated companies, with plants in eight states, started the Sound Government project because of increasing concern over taxes and to develop an in-plant approach to good government among white collar workers.

A Sound Government Executive Board of 15 selects a governmental topic for discussion, usually after polling the Sound Government Committee, whose members are the employees participating in the program. The topic must be of basic interest to the employees and susceptible to practical handling. Topics have included the New Jersey gubernatorial campaign of 1953, taxes, the federal budget, political party platforms and citizen action.

Interest in the topic to be discussed is built up through a one-page newsletter, "Two Minutes, Please!" mailed to the homes of members, distribution of pamphlet material, conferences conducted by the Personnel Department, and pilot testing.

Discussion meetings are then held, either as seminars, debates or panel discussions, with groups limited to 25 to attain maximum participation. The panel method has been found best to achieve high participation in the discussion. The Executive Board usually provides moderators for the panels.

Finally, the discussions are evaluated through questionnaires and by gathering opinions.

In its brochure, "Sound Government Is Your Business," which tells how to set up a Sound Government program, Johnson & Johnson says that the program arose out of a belief that the opinions of managerial and technical workers were not be-

ing reflected in governmental affairs, despite the fact that the nation's white-collar workers represent one of the largest working groups in the country.

Better business climate plan

Like many other companies, General Electric finds that the business climate in the communities in which its more than 100 plants operate "is almost never as hospitable as it needs to be." Its answer is to accelerate efforts toward generating a better general business climate—as well as selling its products and the company—in each community. The plan is described in a booklet for its management personnel called, Good Business Citizenship—The Big Challenge to Community Relations.

The first step for local management is to appraise objectively the strengths and weaknesses of the community and to determine local objectives, both short and long range. A guide is provided for making a business climate appraisal.

The next step is to develop a program and timetable for gradually improving the economic, moral, and political understanding in the community and for developing better personal citizenship on the part of the employees and their neighbors. A 20-point checklist is provided for participation in various community activities. As individuals, GE urges its managers to:

- ▶ Study up, so you can tell the right from wrong.
- ▶ Live up, so you can practice what you preach.
- ▶ Speak up, to make sure others have the facts.
- ▶ Join up, to gain strength and unity.
- ▶ Build up, to move forward instead of backward.

As part of the better business climate plan, GE executives have organized legislative councils in six states to become better informed about their state governments and to consider any action which might be appropriate with regard to current problems. They are fostering activity at state and local levels.

For use in economic education, GE has developed a color slide film—"Government Is Your Business—Either You Run Your Government or Government Runs You." **END**

REPRINTS of "Business in Politics: How Far You Can Go" may be obtained for ten cents a copy or \$7.50 per 100, postpaid, from Nation's Business, Washington, 6, D.C.



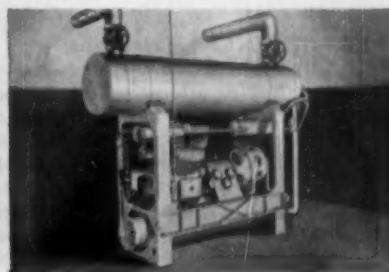
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HOW TO REORGANIZE WITHOUT CRISIS

Whether you're reassigning duties, diversifying, or growing, these tips will save money, eliminate headaches

YOUR BUSINESS is changing.

Growth, diversification, increasing competition are constantly forcing alterations in methods or structures.

The change may be as simple as a reassignment of duties, the opening or closing of a department. It may be as complicated as changing product mix, adding a new plant or revising the entire organizational setup that has served a company for generations.

Whatever the goal, the hoped-for benefits of change are seldom fully realized. Often it takes years for people to function effectively in the ways the revised plan calls for, and the costs of making the change, both in terms of lost profits and human anxieties are often very great.

The preliminary results of a study being made by the McKinsey Foundation for Management Research in collaboration with Dr. Eli Ginzberg of Columbia University and his colleagues Dr. Douglas Bray and Dr. John L. Herma, and Dr. James Thompson of Cornell University indicate this does not need to be so.

Proper handling can reduce the costs of change both in terms of lost profits and human anxieties.

Many factors contribute to the difficulties of making changes. They include the structure of the plan itself, compensation of executives, status changes, communications, systems. But the greatest single factor is that the people who make the decision to change do not realize that an organization consists of people whose capacities, psychological make-up, personal goals, informal relationships and value systems must be taken into account.

These human qualities do not belong to the rank-and-file alone. The executive—whether he is the fore-

man, division manager or company president—has a personality structure, too. A plan which does not take this personality structure into account has little chance of success.

So, any proposed change that is to succeed must begin with an examination of

The chief executive

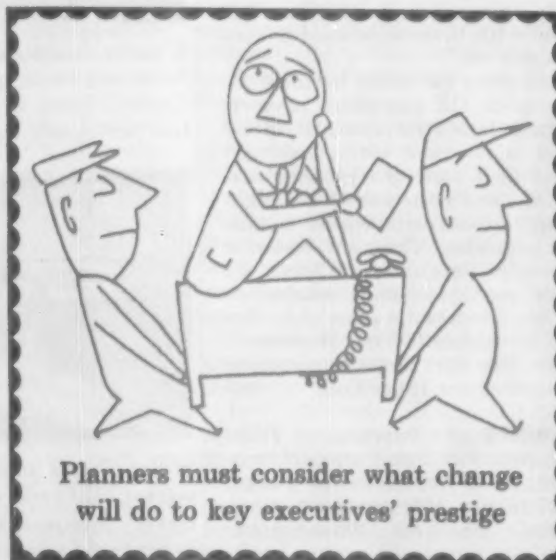
To achieve any goal requires paying some price. So it would be unrealistic to design a plan which required a price higher than the chief executive is willing to pay.

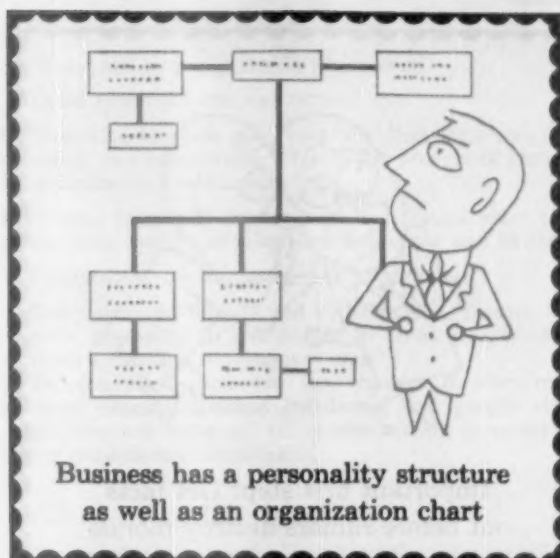
For example, an executive approaching retirement may be unwilling to undertake things that a younger man would do. Some executives are willing to risk delegating substantial authority to subordinates; others are more cautious. Some are willing to take steps that are contrary to the personal interests of even their closest friends if this is in the best interest of the organization. Others have such deep loyalty to individuals that they cannot bring themselves to act critically toward these individuals even when the good of the business calls for it.

It is also essential that the top man understand and be prepared to do what he must do to make the plan a success. If he does not carry out his part, resistance and inertia down the line will increase. In such cases, it would frequently have been better never to have undertaken the plan at all.

So, in making a change it is necessary to answer such questions as:

- ▶ How much change must the key executive make?
- ▶ Is he adaptable?
- ▶ Will he set a good example?
- ▶ Does he really understand and feel strongly about the new approach, or does he recognize the need for change intellectually without much disposition to pay a price personally to make it work? Is he an effective administrator, or does his ability lie in other directions?
- ▶ Will he enforce organization discipline? Does he have the ability to communicate concepts and ideas?
- ▶ Is he skillful at guiding subordinates?





- Does he have the loyalty and confidence of the organization?
- If he lacks the skills and interest to do certain parts of this job himself is he willing to delegate these and back up the executives to whom they are assigned?
- Is a suitable executive available?

Equally important, the planners must get the commitment of the chief that he will do the things needed to get the plan successfully launched. If he has to make speeches to management personnel or demonstrate strong interest and support of training programs, or handle staff meetings in certain ways, or apply disciplinary pressures to those who fail to cooperate, these things should be spelled out and his commitment obtained in advance. If this strong support is not obtained, people down the line will say, "If he isn't interested, why should we be?"

Key personnel

It is also important to take into account the capacities and limitations of other key personnel, and the impact of the change on them.

It is important to ask:

- What kind of abilities, skills, and judgment are required that the old plan did not require?
- How difficult will these be to acquire?
- Do present executives have the intelligence, breadth, attitude, maturity, to develop them quickly enough?
- If not, can additional personnel be obtained?
- How serious would the consequences of poor performance or failure be?
- Can these be guarded against?
- Can the transition from the old to the new plan be so phased as to minimize the risks of breakdown?

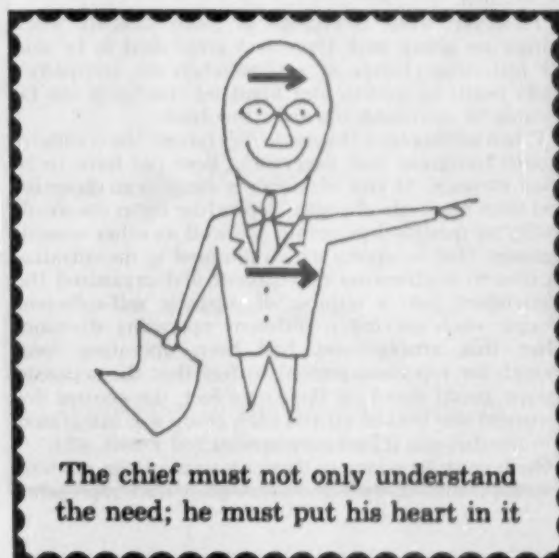
The planners must also consider how the proposed changes will affect the present status, prestige, and career ambitions of key executives. Will it expose poor performance they have been successfully camouflaging? Are there rivalry, cliques, and power politics in the management group? How will these be affected? Is

the new approach adapted to the way key members of the management group operate best?

Sometimes the plan can be modified to deal with the human factor. A sales manager who is weak in planning and control may be reinforced by a strong product manager or a sales planning and analysis staff. Or suppose there is rivalry between the controller and the vice president for manufacturing. It is doubtful that the latter will make effective use of a budget and cost analysis group reporting to the former. Under some circumstances it may be better to give the manufacturing vice president his own departmental staff unit, even though this represents a theoretical duplication of activities.

Other management processes

The planners must be sure that all of the other processes on which the organization depends are aligned to conform to the new plan. For example, it is important that procedures for planning and the measurement of results be immediately aligned to conform with the new structure. This is generally the first thing a company does when it decentralizes.



Otherwise delegation results in abdication and costs get out of hand.

It is also important that the compensation plan and management incentives implement the new philosophy of management.

If the new plan emphasizes the profit responsibility of executives and involves greater risk to the individual than the old one, the compensation plan should provide for greater earnings to individuals who are successful.

Incidentally, the more new things that have to be learned in order to make the plan effective, the greater will be the difficulty in getting it accepted and functioning effectively. A plan which requires the introduction of new management techniques such as budgeting and appropriation request procedures, measurement methods and the like will present greater difficulties than one which changes reporting relationships but calls for people to go about their jobs pretty much as before. The fact that the former change is much harder to put into effect should not be a deterrent, because

HOW TO REORGANIZE WITHOUT CRISIS *continued*

over the long term the new methods can be very beneficial. However, the greater difficulties must be faced.

Timing

A frequent remark, when change is suggested is, "You can't act now because people are upset."

Even if people are not upset now, changes are frequently resisted because of the risk that they may upset people.

The fact is that changes courageously undertaken when people are upset not only succeed, they generally improve morale.

Generally, the greater the external pressures, the more changes it is realistic to undertake. For example, we have all observed that under the emotional stress of war it was possible to get people to do many things that they would not have done otherwise.

Alexander Leighton, an authority on social change, has pointed out that it is fairly well recognized in psychology that, in periods of great emotional stir, the individual can undergo far-reaching and permanent changes in his personality. When the pressure is removed, there is probably always some slipping back toward the previous status, but much of the new period is retained.

However, even if change is more difficult when things are going well, there is a great deal to be said for initiating change at a time when the company's trade position, profits, and financial condition are favorable to assuming the risks involved.

When setting up a timetable for change, the company should recognize that everything does not have to be done at once. It can establish a long-term objective and then phase its changes, depending upon the availability of qualified personnel, as well as other considerations. One company which planned to decentralize its central engineering department first organized the department into a number of separate self-sufficient groups, each serving a different operating division. After this arrangement had been operating long enough for top management to feel that the separate groups could stand on their own feet, the central department was broken up and each group was integrated into the division it had been serving.

Such considerations as these mean a certain amount of compromising with the ideal plan that represents



management's long-term goal. But planners must establish definite limits beyond which they will not compromise. If they give sufficient attention to the next steps the amount of compromising can be minimized and the speed with which the full ideal can be obtained can be accelerated.

These next steps include:

1. Reducing resistance to change.
2. Introducing the plan.
3. Speeding the learning process to help all members of management function effectively under the new plan quickly.

Resistance to change

Resistance to change is not always bad. It may point up the need for adaptations in the new plan.

As Chester A. Bernard, a leading authority on management, has observed, resistance primarily grows out of fear of disrupting organization communications. Organized cooperation involves a complexity of subtle habits, attitudes, and standardized expressions whose smooth and more or less unconscious employment is essential to effective and comfortable collaboration. A new plan disrupts all this, makes collaboration difficult, and increases misunderstandings.

Kurt Lewin, who pioneered the subject of group dynamics, pointed out that once management has decided that changes are sensible it can deal with this resistance in one of two ways:

- It can increase the pressures for change.
- It can reduce pressures opposing change.

The latter is preferable. Increasing the pressures for change will result in a fairly high state of tension whereas reducing the forces opposing change accomplishes results under conditions of low tension.

For example, among the pressures opposing change are these human attitudes, one or all of which are almost always present when people fail to alter their habits:

1. They do not know what is expected of them.
2. They do not know it is important.



3. They do not know how to change.
4. They feel psychologically threatened.

These pressures can be reduced by:

- Presenting the new plan in a way that wins understanding and acceptance. This is the process of communication and persuasion.
- Helping people to change certain habitual ways of responding and to develop new responses and skills.
- Establishing an atmosphere of confidence.

But change is difficult and considerable pressure is usually necessary to get people to break deeply ingrained habits and develop new ones.

So discipline—pressure for change—is also required: uncompromising insistence that people do what they are expected to, reinforced by consistent use of rewards and penalties.

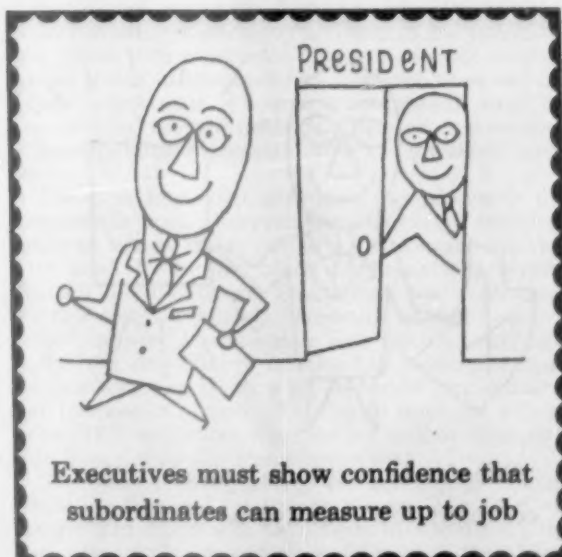
Introducing the plan

The methods used to introduce the plan should take into account the personalities of the company and its people.

For example, people have always recognized the importance of ceremony in effecting change. But it would be unrealistic to introduce the plan with a big show if the company is not used to doing things that way. Similarly, it would be unwise to rely heavily on consultative supervision and coaching by an executive who has not managed this way in the past.

This does not mean that efforts should not be made to introduce new communications methods into management processes. However, if they are relied on at the outset, key executives will feel uncomfortable and so will their subordinates.

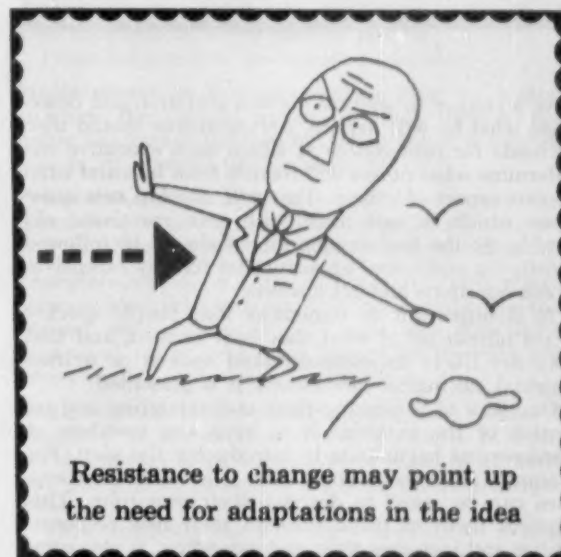
Therefore, the results are not likely to be as good as they will be if the plan is introduced in the way that the people concerned do things most easily and well. When this way is determined, the first step is to get factual statements out ahead of rumors. Anyone who has ever lived through the period before a major reorganization knows how destructive of morale and productivity can be the period when it is known that something is going to be done but no announcement has been made.



This initial announcement is the hinge on which a major part of the plan's success will depend. Everyone involved is immediately going to wonder how the change will affect his present status and his long-range ambitions. So the first announcement must consider not only the logical, but also the emotional reactions of each executive. Therefore, it should be as explicit as possible both as to the over-all purpose of the plan and about the specific goals of each executive. It should spell out concretely what will be expected of each level of management and what the benefits and costs will be.

It is also important to point out the disadvantages of the old system. People can easily visualize disadvantages in the new plan, whereas its superiority over the old will probably seem less real. So it is important to make clear the benefits of the new plan, both for the company as a whole and for each level of management.

Every plan has disadvantages and difficulties, and these must also be pointed out. Not to mention them

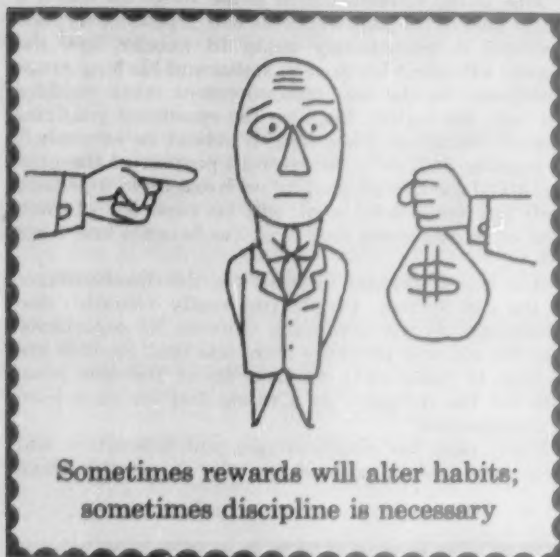


will reduce the credibility of the advantages, and people, fearing the unknown, will imagine the difficulties anyway. But they can face up to almost anything provided they know what it is. The more specifically the risks and costs are spelled out, the less frightening they are. Moreover, if the announcement does not prepare people for the inevitable difficulties, the ensuing disillusionment when problems are encountered may scuttle confidence.

The initial announcement should also deal with emotional considerations which are, subconsciously if not consciously, weighing upon many members of management. It should make explicit the nonpersonal reasons for the reorganization so that no executive feels it is the result of dissatisfaction with his personal performance. It should be made clear that no executive is losing financially or in status, if this is the case. Finally, the announcement should make clear that ample allowance will be made for honest mistakes during the transition period; that key executives will be given the necessary assistance, facilities, and authority to carry out their new responsibilities.

Since it would be unrealistic to assume that the planners can foresee all the problems, each man should

HOW TO REORGANIZE WITHOUT CRISIS *continued*



have a chance to analyze his new situation and determine what he will require. Arrangements should then be made for conferences at which each executive can determine what others will require from him and what he can expect of others. This will develop new questions which, if not dealt with, can reactivate old doubts. So the first announcement should be followed shortly by additional opportunities for key executives to ask questions and get answers.

It is important to remember that people quickly forget almost all of what they hear or read, and that they are likely to misunderstand spoken or written material, no matter how clearly it is presented.

One way of increasing their understanding and retention of the material is to have key members of management participate in introducing the plan. For example, after the over-all plan is announced executives can be asked to describe their own roles. This requires them to think through their new responsibilities and increases their understanding. It also commits them publicly to their new roles.

To get even wider involvement, it is desirable, after the plan has been communicated, to break the meeting down into small discussion groups where the participants discuss how they will function under the new plan, what problems they expect to meet, how they propose to meet them, and raise questions.

The groups should meet without any higher member of management present so that they will be uninhibited. When the discussion groups reassemble, a spokesman for each reports the consensus of his group's discussion. This removes any personal onus that might arise from criticisms of the plan or embarrassment due to misunderstandings. Thus, all problems are laid out on the table so top management can answer them.

Learning

No matter how well the plan is introduced there is still a big gap between intellectual understanding and action.

Application of learning theory can contribute a great deal to effecting the desired changes fully, quickly, and smoothly. Psychologists tell us that learning has four elements:

1. Drives, or the motivating factors that induce a person to act.

2. Cues, or those elements in the situation that indicate to him that he should respond.

3. Responses, or the resulting kind of behavior.

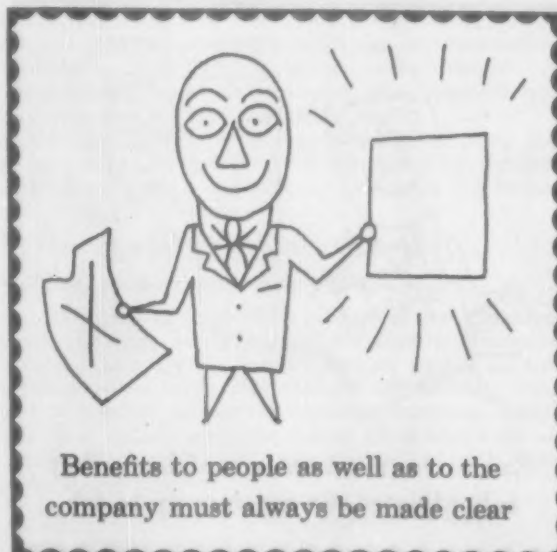
4. Rewards, which represent at least partial satisfaction of the individual's drives as a result of giving the right response to the cue. Incidentally, these rewards do not have to be immediate, since an individual can be induced to make the proper responses by the expectation of future reward.

Also, learning typically requires repetitive action over a period of time until new habits are formed.

If management wishes to speed the learning process it must analyze the plan in terms of each of these elements. What new responses or ways of doing things does the plan require? What kinds of events, incidents, or actions are likely to cue these responses? How, realistically, can the correct responses be rewarded in terms of factors that appeal to the self-interest of the individual or group, such as through incentive compensation, advancements, or recognition? Have the desired new responses been spelled out in suitable form to facilitate learning? Have the proper conditions been established for learning these new responses? Have opportunities to practice been created?

In one company, preparing for decentralization, management set up product boards made up of the individuals who would have ultimately comprised the management of the various product divisions. These boards considered all the problems that they would consider if they were managing the division. However, they had authority to recommend only. Therefore top management could catch and correct errors before they were acted upon. When these boards demonstrated their ability to assume full responsibility, the company shifted to the divisional plan of management.

Learning will be greatly improved if ways can be developed to determine whether people are responding correctly. The importance of this is demonstrated by some research recently conducted by the Rand Corporation which developed some interesting methods for recording everything that took place in a management situation. The results were then played back to the participants who were able to analyze their own mistakes and figure out what they should do next time. As a result, the productivity of the participating units rose to three times what any unit had ever



achieved previously. The conditions under which these experiments were conducted would be difficult to duplicate fully in a typical business situation. But this demonstrates how much a company can gain from providing people who are learning with some means to be informed of whether or not they are responding correctly.

Another key factor in learning is involvement. Experience confirms that behavior changes and acquisition of skills do not result merely from intellectual understanding and acceptance, but from thinking a problem through or doing things in a new way.

In addition to the contributions they make, executives who participate in the development of a plan have an opportunity to discover for themselves the reason why the change should be made, the benefits to be derived and how the plan is supposed to work.

During the transition from old to new ways there are bound to be rough spots, and temptations to revert to former methods.



You cannot cut people loose and expect them immediately to perform efficiently and display the judgment that comes with experience. Also, almost any sensible person trying to take over new responsibilities and do things in new ways is bound to feel insecure until he has mastered the new methods. Therefore, a good deal of hand holding is needed during the transition process.

The most important person in this process is the individual's boss. However, there are often practical limits as to how far he can go in meeting the individual's need. In the first place, he himself is probably affected by the change. So he may not understand the new concepts himself. Moreover, he, too, may feel quite insecure. Also, he may lack teaching skill. Finally, the dependency relationship between a man and his boss may create a psychological problem similar to those of a husband trying to teach his wife to drive. This underlines the need for staff or other outside help during the transition process.

The feelings of insecurity that accompany change underline the need for encouragement. The chief executive and others who participate in introducing the new plan must stress their confidence in the ability

of individuals to do what is expected. It is also important that they demonstrate, by their own conduct, their belief that their subordinates can do the job. This includes, besides actual encouragement, refusal to entertain suggestions that the individual will not be able to do the job or to accept in advance excuses for possible poor performance. Obviously, commendation for work well done is also important. Confidence can also be built by consciously seeking opportunities for individuals to experience quick successes in applying the new concepts and by rewarding these in appropriate ways. These will get on the grapevine and build general confidence in the new plan.

In addition to conscious and logical considerations, human behavior is influenced by unconscious mental processes which follow an entirely different set of laws.

Unconscious forces influence behavior at all times. But we need to know how to recognize them during organizational change, and what, if anything, we can do about them. Clearly, every executive cannot become a psychoanalyst and every company president cannot have a psychiatrist at his side as he sets about a large-scale reorganization. But it is helpful for the executive to be alert to the conditions under which these unconscious forces may be present.

These unconscious mechanisms include:

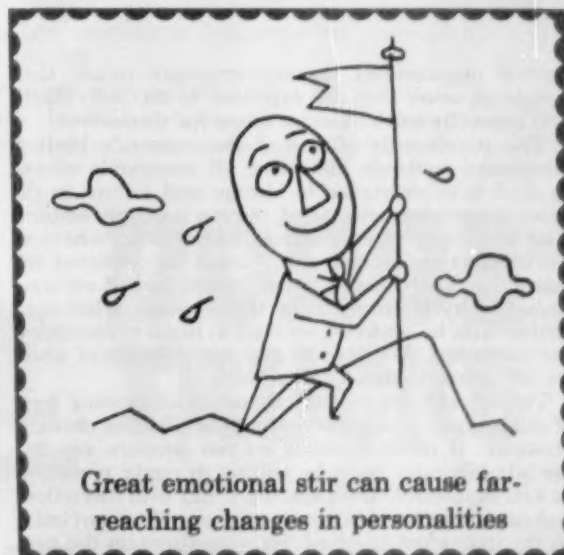
Displacement, or shifting reactions from the context in which they belong to one in which they do not. Anger felt toward the boss but taken out on a subordinate is an example of displacement.

Projection, or unconsciously attributing one's own impulses to someone else. Thus, a politically minded individual may suspect political motives in others.

Transference, or shifting of one's attitudes toward persons who were important in one's early life to a current relationship. Thus, a man who was highly dependent on or rebellious toward his parents may adopt similar attitudes toward his boss.

Negativism, or the psychological term used to describe conscious or unconscious efforts to behave in a way which appears to be submissive to those in authority but which is calculated actually to defeat their purposes.

This manifests itself in the conscious or subconscious effort of people to resist change, even when the



HOW TO REORGANIZE WITHOUT CRISIS

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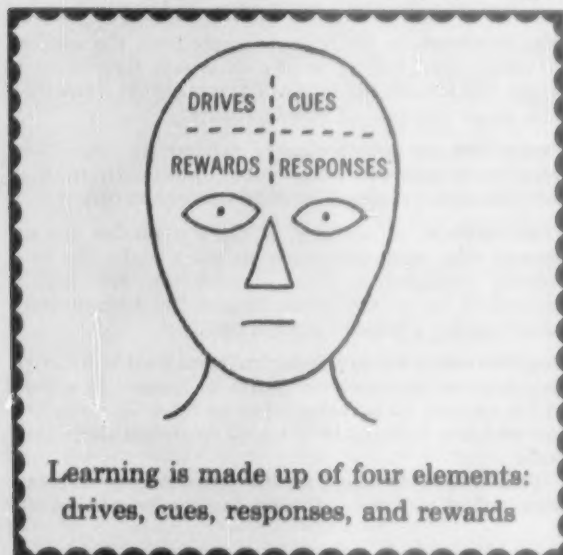
need is clear, the solution appears reasonable to objective people, and even after the individual has agreed to do what is required. For example, when a company shifted from a centralized functional plan of organization to a decentralized divisional type, the vice president for manufacturing's authority was shifted from line to functional. Instead of discharging his new responsibility to advise and coach the inexperienced divisional personnel, he did nothing, even when they let things get badly out of hand. Apparently unconsciously he hoped that they would fail and that line authority would be returned to him.

We can recognize these unconscious mechanisms, psychologists say, because they are usually illogical and disproportionate to the situation that touches them off.

Discipline

Some psychologists question whether in most cases consideration of the psychological aspects of this behavior is either necessary or desirable. They believe

DRAWINGS BY CHARLES DUINN



that if management uncompromisingly insists that people do what they are supposed to do, individuals will generally solve these problems for themselves.

The psychiatrist of one of the country's leading companies contends that, after all reasonable efforts to deal with resistance to change and failure to do what is expected have failed, we can probably assume that the cause is unconscious negativistic behavior. Such behavior, he contends, cannot be corrected by reasoning. Therefore, we would waste time if we continued to try to change it by these means. When reasoning fails, he contends, we need to begin to discipline the individual. We need to give fair warning of what we are going to do and then do it.

This should not be interpreted as advocating fear of punishment as a primary means of effecting change. However, if other methods do not produce results, the administrator must be willing to apply penalties as well as rewards. Used sparingly and with discretion and care, penalties can have a salutary effect, not only on the individual involved, but sometimes on the rest of the organization also.

To an even greater extent than in the case of most other management processes, it is most important to provide for a continuing evaluation of progress during the installation of the plan and opportunities for executives to feed their problems back.

Since it is not possible to anticipate all eventualities in planning changes, the need for further change in structure or processes may develop. Also, since changes involve balancing many alternatives, some mistakes are inevitable; they should be admitted frankly and corrected promptly.

Such action will build confidence both in the plan and in the chief executive.

One company found that it had grown so rapidly that it was necessary to slice off a whole group of products for manufacture and marketing in a separate, integrated division. These products were all sold to the construction industry. The change was planned for more than a year and explained, step by step, to all concerned. But shortly after the plan had been put into effect, management observed that setting up separate manufacturing facilities for the new division had increased costs abnormally. Study showed that many of the division's products could have been made with existing facilities. It was not too late to admit the mistake. The new division was redesigned as a primarily marketing division, its manufacturing operations were absorbed by the parent organization, and all executives concerned respected management's courage and wisdom in rectifying an honest error in planning.

These appraisals of the plan's progress will also disclose human problems. For example, they may reveal that a key executive is not cooperating because he is still somewhat in the dark as to what the new plan implies for him or his subordinates. In that case some further indoctrination may cure the difficulty. On the other hand, his opposition may grow out of a deep-seated hostility to the plan so that he will remain in opposition until removed.

It may prove that the original program underestimated the extent of training required to assist personnel in mastering their new skills. If so, additional training will have to be provided and adjustments made in the time schedule.


When consideration is given to the things that should be done, the difficulties they present, and how little is really known about dealing with them, it is a wonder that changes ever get made. But lest the whole process seem so difficult that some managements hesitate to make needed changes, they should bear in mind the enormous adaptability of human nature.

Also, most businessmen know of reorganizations where every rule in the book was broken. It seemed that everybody would have quit. But they did not. And while morale and productivity were a fraction of what they might have been, they still got the job done, after a fashion.

There is no question that changes can be put into effect by brute force. It is happening every day. But it is doing it the hard way—hard on people and hard on profits.

—EWING W. REILLEY,
president, McKinsey Foundation
for Management Research, Inc.

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BUSINESS GUIDES

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tracts. Business may have gotten much better or much worse since the contracts were made, but the amounts paid in wages under the contract don't change. Also, as a dollar figure, it doesn't directly report actual production. Finally, some types of income are excluded.

Index of Industrial Production

This figure, issued monthly by the Federal Reserve Board, measures the change in the actual physical volume of output of manufacturing and mining firms. Based on figures supplied by federal agencies and many private trade associations, it covers about one third of the total U. S. production of goods and services, measuring it against production in the 1947-49 years.

Since this figure comes out monthly, it is the best government indicator of whether actual physical production is currently rising or falling. A great advantage is that it lists individual figures for some 21 major industry groups in manufacturing and five major groups in mining. These figures show the exact industries that are strong or weak in terms of current production activity. Individual companies can study these components and see how their own production measures up against that of the industry as a whole. Many firms use the industry breakdowns to study potential markets.

Like GNP and personal income, the index of industrial production is not a forward-looking indicator. Another drawback is that it doesn't measure the total production. Its coverage omits agriculture, construction, utilities and other groups; and because manufacturing and mining tend to be the most volatile areas of total production, the index can be rising or falling far more rapidly than the economy generally.

Expenditures for New Plant and Equipment

Issued jointly by the Securities and Exchange Commission and Commerce Department every three months, this report shows the expenditures planned for new plant and machinery by all private businesses except agriculture, the professions and institutions. The agencies report actual recent spending and also anticipated spending in the two next quarters. Their figures are based on quarterly and annual reports by business firms to the SEC, Commerce Department, and Inter-

state Commerce Commission; the reporting firms account for about 60 per cent of spending on new plant and equipment. Government agencies adjust the amounts reported to represent the past experience and future plans of all U. S. businesses except those in the omitted fields.

This is a dynamic, forward-looking indicator. It is watched closely for indications as to just how industry feels about the future.

In addition, the expenditures figure has many other uses. Since the total is broken down for some 25 to 30 major industry groups, businessmen can study the expansion plans of their own industries, and decide whether to increase or cut back their own plans. The figures also indicate markets for steel and other products and for skilled labor.

The fact that some types of equipment are omitted from the total can occasionally diminish its accuracy. For example, the agricultural equipment industry is not included in the SEC-Commerce figures. Nor does the SEC-Commerce total reflect items that business deducts as current expenses, rather than charges to capital account and depreciates. This means that such important outlays as the auto industry's expenditures for tools and dies for new models are not included. Finally, for some specific industries, the SEC-Commerce sample is small.

Employment

There are two main government indicators of employment. The Census Bureau each month estimates total employment, total unemployment, and the total work force or all those working or looking for jobs. The Bureau of Labor Statistics of the Labor Department each month reports total employment in non-farm establishments.

The Census figures, based on a survey of some 25,000 households in 230 areas, classifies all persons 14 years old or more in those households as employed; unemployed looking for work but not finding it; or not in the labor force.

The BLS figures are based on reports from 155,000 establishments, including most if not all of the largest firms in each industry. The figures cover both part-time and full-time workers, temporary as well as permanent.

Generally speaking, employment and unemployment figures are accepted as a ready symbol of economic activity and of the smoothness with which the economic system is working. The Census figures are important in showing not only the number of people at work but the number who can't find jobs.

The Census figures are also of interest to sociologists and others studying work habits, since they show employment, unemployment, and labor force by sex, age, color, marital status and number of children. These figures provide information on whether more or fewer old people are unable to find work, the number of married women holding jobs, the number of young girls looking for work, and the like.

The BLS reports are especially important because they have details on employment trends in some 200 separate industry groups and subgroups. Thus they point up the industries showing strength and those showing weakness.

Persons using the Census and BLS figures must be careful to take into account the fact that neither agency makes any good adjustment in its figures to allow for usual seasonal variations. Also, while the BLS figures are excellent for manufacturing and some other groups, they've not yet proven too reliable for certain fields where there are many small firms.

Average Weekly Hours

This monthly indicator shows the average length of the workweek in nonagricultural employment. The BLS collects the information for this report at the same time it gets together the information on nonfarm employment.

This figure frequently spots economic trends long before they show up in changes in employment totals or in other economic indicators. This is because businessmen generally are reluctant to build up or cut down their work force until they're sure that an increase or drop in business is going to be permanent. So, when they get new orders, instead of hiring more workers, they lengthen the working hours of those they already have. Instead of laying off workers when business gets slack, they cut the workweek back for all. The BLS figures highlight these changes by industry.

While the average workweek figure is a highly significant short-term indicator, it has little value as a long-run barometer. It is not seasonally adjusted, and frequently can be misleading when a holiday occurs during the week on which the reports are based. Also it is not equally good in all fields, being most accurate for manufacturing and a few other industries.

Construction

The Labor and Commerce Departments jointly issue figures on the dollar value of new construction erected each month. Commerce has

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chief responsibility for private non-residential building, and BLS for private residential construction and public construction.

The figures cover the work actually performed during each month—the value of the materials put in place or consumed that month, the wages of the workers, and appropriate charges and allowances for depreciation, overhead and profits. They do not cover the total eventual value of the buildings started. The figures cover all fixed structures, including such construction work as dams, highways, canals, airfields and utility lines. They include major additions and alterations, improvements to land, and equipment that is an integral part of a building such as elevators or plumbing and heating. They do not include raw land, repair or maintenance work, drilling or mining operations, shipbuilding, or farming operations.

The government agencies develop their estimates from reports of the physical progress on federal projects, financial reports filed with the government by utilities, and, most important, by converting information on construction projects started into estimates of work put in place by applying typical progress patterns to each class of construction.

The construction-put-in-place figures are the best government measure of how the construction industry is performing. Economists say they can't tell much about the functioning of the economy as a whole without a look at this indicator. Individual companies supplying building materials check these figures against their own sales to see if they're holding their own.

This figure is not a particularly forward-looking or sensitive indicator of change. Much current construction is based on past commitments, which have to be followed through regardless of changes in the economy generally. A second difficulty is that this figure is not a measure of physical volume of construction; to measure that, allowance would have to be made for changes in material prices, wage rates, and production techniques. Finally, the fact that the total doesn't include repair and maintenance projects diminishes its reliability as an indicator of total construction activity.

Housing Starts

Each month, the BLS issues a widely watched housing starts figure. This is the number of new non-farm dwellings—units with perma-

nent cooking facilities and designed for family living—on which construction was started the previous month. The figures are based on three sources: reports from federal, state and local agencies that are themselves building public housing units; reports from some 7,000 local government officials who issue permits for private building; and field surveys of a sample of 53 areas that don't issue permits.

The housing start figure indicates what home-building will be like for the next few months. The number of units being started is a measure of the optimism or pessimism of the speculative builder. This makes housing starts usually a good barometer of future economic conditions.

This figure is vital information for builders and mortgage lenders. It is a key figure in the production plans of firms supplying building materials, house furnishings and other items tied to housing. Its value in these fields is underlined by the fact that it is promptly reported, with a preliminary estimate for a given month available by the fifteenth of the following month.

One drawback of the starts figure is that, although it is usually a good indicator for the economy as a whole, it is not always so. For various reasons, this figure could be holding level or going down when the over-all economy is still rising. Moreover, the reliability of the data must still be improved. Bad weather, labor shortages or other factors frequently prevent new permits from being translated into actual starts, and so throw off the estimates for particular months.

Consumer Price Index

The CPI, as it is also known, measures the change each month in the prices paid for goods and services by families of city wage earners and clerical workers—persons who account for about 64 per cent of the population in urban communities and about 40 per cent of total U. S. population. The BLS has selected some 300 items as representative of the thousands of commodities and services city wage earners bought in the year ending June 1952, and the CPI measures how much these same items cost the wage earner now as against the cost in 1947-49.

To compile the CPI, an army of part-time employees checks the selling prices of the 300 items in 46 representative cities—the 12 largest, nine other large cities, nine medium-sized cities, and 16 small ones. Prices are checked in all types of stores and service establishments in each city at intervals ranging from every month for some cities to once

every four months for others.

The CPI is a rough but quick and comprehensive measure of the purchasing power of the dollar today as against other periods, and its short-term movements are of major help in formulating national policy on such important subjects as price and credit controls. To some degree, it indicates how well supply and demand are in balance at the consumer level.

Both management and labor use the CPI during wage bargaining, and wage rates of some 2,000,000 workers are tied by contract to changes in the index. For the consumer, the CPI is a useful, quick basis for seeing how his purchasing power has changed and for determining how local price trends compare with the national trend.

A major limitation is that the index does not reflect changes in general income levels, living standards or buying habits. It does not measure exactly the changes in the cost of living, because it does not allow for differences in the quality, quantity or types of items being bought. If people buy more steaks and less hamburger, their cost of living goes up, but CPI assumes they're still buying as much hamburger and as much steak as in 1947-49. New products which may cause quite a bit of consumer spending don't turn up in the CPI totals.

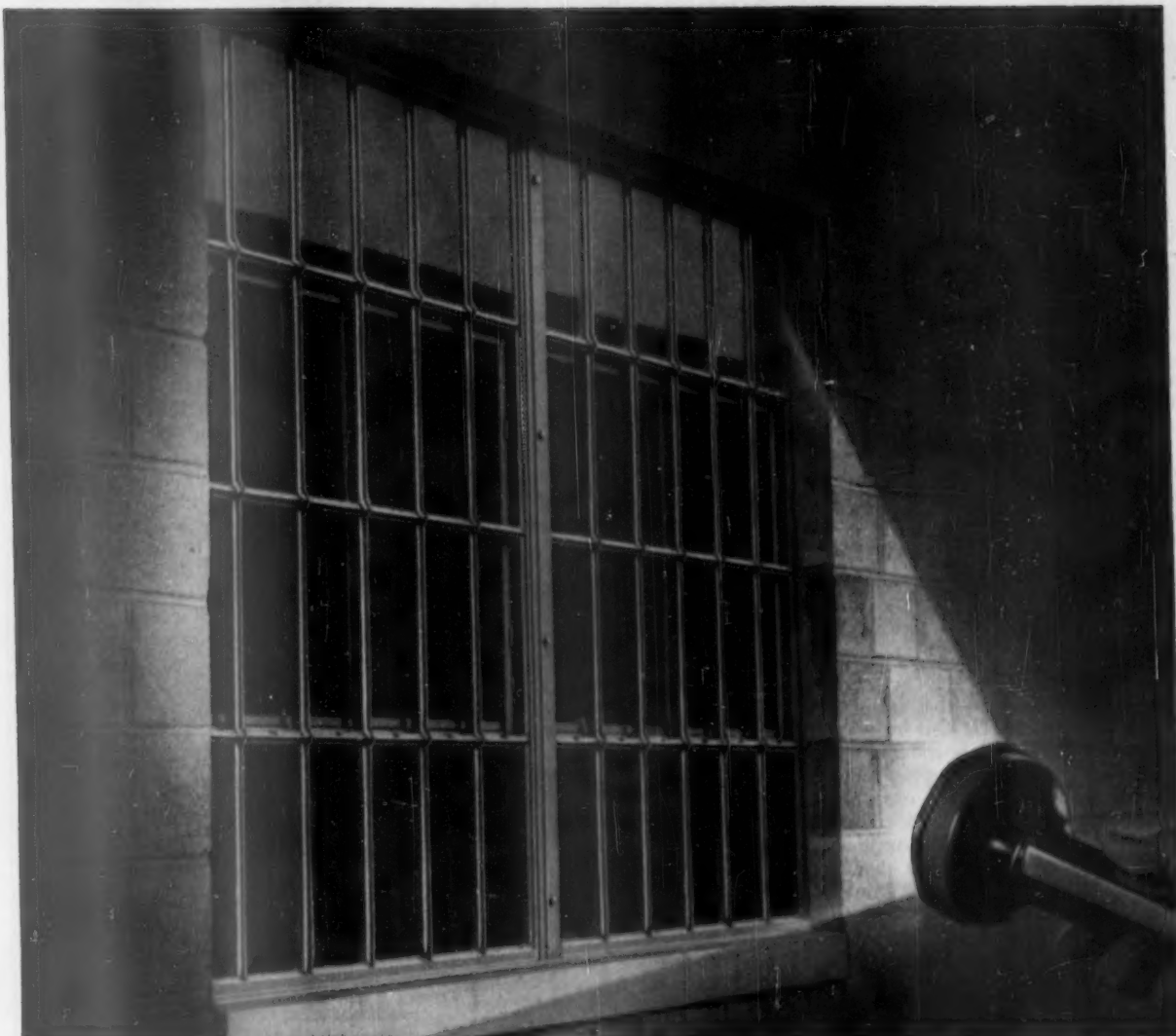
Many economists also feel that the segment of the population covered by the CPI—the average families of wage earners and salaried clerical workers in urban areas—is not broad enough to make CPI a real measure of cost of living generally.

Other types, quantities and qualities of commodities would have to be used to measure changes in living costs of professional people, farm families, retired couples, single workers, and other groups.

Wholesale Price Index

The BLS index of wholesale prices is a far better indicator of future economic movements than is the CPI. This index, issued monthly but supplemented with weekly reports, measures the price movements of some 2,000 representative commodities ranging from raw materials to fabricated products. The prices recorded for them are those at the level of the first commercial transaction. They are really producers' selling prices.

The monthly index is put together from reports on the 2,000 items directly from livestock and grain exchanges, from trade papers, and from the producers themselves. It shows how present prices for the



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items compare with those in the 1947-49 years. The weekly index is based on reports of a small sample of some 200 of the commodities in the monthly index, with estimates for the other 1,800 items.

Like the CPI, the wholesale price index shows changes in the purchasing power of the dollar and also the balance between supply and demand. However, since they come at an earlier stage in the economic process, changes in this index are more useful for making predictions of future economic movements than are changes in the CPI.

Moreover, since the monthly index is available for some 15 major groups, 86 subgroups and 250 individual product classes, it is particularly useful for indicating the specific commodities or groups of commodities where there is a shortage of demand or supply. Major government economic policies are frequently influenced by movements of this index.

Business firms use the index to figure future costs. If the index of certain commodities is moving up, a manufacturing firm buying fabricated products can, for example, check raw material prices, figure how much the costs of its suppliers must be increasing, and decide whether to step up buying immediately to avoid later increases in its suppliers' selling prices. Firms can estimate whether expansion plans are going to cost more or less than originally calculated by watching price changes on commodities going into buildings and equipment.

The index is being widely used to make periodic adjustment of many long-term agreements. Long-term leases of property, long-term royalty or patent agreements, or contracts for items to be produced or services to be rendered over a long period frequently include clauses providing for periodically adjusting the price to coincide with changes in the wholesale price index.

While the uses of this index are many, so are the limitations. It measures change, and not absolute dollar and cents levels of prices. Since it doesn't include prices at retail or prices for services, construction and other items, it isn't a complete measure of the general purchasing power of the dollar, but only of the dollar's power in buying commodities at the producer's level. The index doesn't measure changes in such important elements of price as improved quality or faster delivery schedules. All prices in the

index are quoted prices; frequently, the prices actually paid are different.

Manufacturers' Sales

This is a whole kit of indicators—new orders, unfilled orders, manufacturers' sales, and manufacturers' inventories. They are all issued monthly by the Commerce Department, on the basis of reports from some 2,400 manufacturing firms.

Each of these items is pretty much what its name implies—the total net dollar volume of new orders placed with manufacturing firms during the month; the amount of orders that the manufacturers have not gotten around to filling at the end of the month; the actual sales during the month; and the book value of the manufacturers' inventories at the end of the month.

By looking at all four of these together, economists and businessmen can get a good idea of the size and strength of demand on manufacturers, how much of production is going into sales and how much into inventories, whether orders are outrunning production, and so on. The sales figures reflect present and past demand for goods, a basic measure of the state of business. New orders indicate whether demand is remaining strong. Unfilled orders indicate whether demand is outstripping supply. Inventories indicate how much of current production is actually moving on to buyers. The figures are generally available for some dozen or more major industry groups, and firms in each group can check their own performance on all these points against that of the industry generally.

It's extremely easy to get a wrong conclusion from these indicators. Any one of them, by itself, can be misleading, and it's often hard to put them together properly. Manufacturers' sales may be rising, and this might lead to a conclusion that the outlook is rosy. But if inventories are rising even faster, the indications would be that increases in demand are not keeping pace with increases in production. A drop in unfilled orders might indicate that production is catching up with demand, but it might also mean that manufacturers have found it timely to draw down their inventories. New orders could show a sharp jump, but they might be government orders for planes not to be delivered for several years.

Retail Sales

The monthly dollar volume of retail sales, over-all and for some 20 individual categories of stores, is published by the Census Bureau. The figures are based on monthly

reports from some 200,000 stores. Retail sales are basically an indicator of consumer demand—both over-all and for individual products. They show whether consumer demand generally is remaining high or beginning to drop. Industries can gauge how their sales are holding up against other industries and firms can see how they compare with competing firms.

One limitation on the use of these figures is that they must be read in connection with companion figures on retail inventories. Frequently, sales of one group of stores may be rising—an apparent indication of strong demand—but inventories may be rising, too, indicating that production is going up faster than demand and that difficulties lie ahead.

Another limitation is that the figures on sales of autos and automotive products tend to dominate the over-all figures and distort the picture. Finally, the retail sales figure tends generally to be a lagging indicator, tied to previous buying habits and decisions.

Bank Loans

The Federal Reserve Board issues two sets of figures on business loans by banks. One is a weekly report showing the dollar volume of commercial, industrial, and agricultural loans by some 400 banks belonging to the Federal Reserve system in some 100 cities. The banks which file these weekly reports account for more than half of all commercial bank business loans.

Monthly, a broader report is issued showing total loans for all commercial banks. This is based on the weekly reports from the 400 banks, monthly reports from all other banks belonging to the Federal Reserve system, and estimates for loans by nonmember banks.

Bank loans are usually a useful advance indicator of general economic changes. When a firm thinks times are going to be good, it frequently borrows to build up inventories or expand capacity. The weekly report is a fast indicator of these changes in business expectations.

However, changes in the volume of bank loans must be interpreted with caution. The Federal Reserve figures are adjusted neither for changes in the value of the dollar nor for seasonal movements. It's usually vital to have some idea of the reasons behind the changes in the volume of bank loans—for example, to know whether an increase in borrowing is a usual seasonal one to pay tax bills or to build inventories for the Christmas rush.

—ALAN L. OTTEN

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limit on U.S. role in business

STIFF new rules to limit future growth of government competition with business are being prepared by the Bureau of the Budget.

The prospective regulations will spell out in confining detail the Eisenhower Administration's policy aimed at curbing new federal activities of a commercial nature.

The new instructions will go to executive branch agencies. They will require agency chiefs thoroughly to justify the start of new commercial-industrial operations, a Budget Bureau official explains.

"You really hit pay dirt if you can keep these activities from getting started," he adds, "because once a commercial operation gets underway, there is always great pressure to keep it."

The Budget Bureau also plans to issue in coming weeks another set of instructions to the executive branch agencies aimed at furthering the program of shutting down existing businesses that compete with private enterprise.

It will tell agency heads to begin passing judgment on federal commercial-type activities that produce service for the government, with the aim of closing those operations that compete with private business.

This new instruction will be a follow-up on the first phase of the decompetition program launched by the Budget Bureau in January, 1955.

At that time the Bureau called on the agencies to list all their commercial-industrial installations and operations for the government's own use. It wanted to know what activities existed in fiscal years 1954 and 1955. Government-operated and government-owned-contractor-operated facilities in the United States, Alaska and Canada were covered.

As a result of this study, the Budget Bureau has just come up with an inventory of 19,771 installations, with capital assets of \$11,863,990,569 and a payroll of 266,521.

It is the first such government-wide listing to date. But it included only those commercial activities

which provide products or service for the use of the government itself, as distinguished from those for the public or for government military and civilian personnel.

In the January, 1955, action, the Budget Bureau also told the agencies to start evaluating the manufacturing segment of the commercial-type activities to determine whether they were justifiable as government operations.

"Unless the agency head concludes that procurement of the product commercially would not be in the public interest," the Budget Bureau said, "the activity is to be closed or curtailed."

Agency chiefs "were told in no uncertain terms if they don't play ball (by weeding out competitive operations) they won't stay around very long," one official recalls.

In its 1955 instructions, the Bureau also advised agencies that new

operations are to be undertaken only when "it is clearly demonstrated in each case that it is not in the public interest to procure such product or service from private enterprise."

The new, rigid rules the Bureau is now considering will set down restrictive provisions to guide government officials in carrying out decompetition. The regulations reportedly will be patterned after a Defense Department instruction which prescribes "actions necessary to meet requirements . . . with respect to the establishment, acquisition or reactivation of government-owned commercial or industrial type facilities or operations."

The Pentagon instruction requires any new commercial operation must be justified by showing, among other things, that:

► Efforts were made to procure the product or service from commercial sources.

► The price from private industry was prohibitive.

► The product or service could not be satisfactorily obtained from within the military services or from another government agency.

The Defense Department struck out on its own in March, 1954, to curtail its government-in-business operations. The Budget Bureau bulletin to executive agencies in January, 1955, asked the Pentagon just to list its manufacturing activities.

Pentagon officials who have kept tabs on their Department's program of closing down its business-type

Here is government in business

	No. of installations	Capital assets	No. of Government employees	
			Civilian	Other
Government-operated:				
Civilian agencies.....	18,964	\$ 760,655,575	92,320	4,524
Department of Defense, Military (mfg. only)	357	2,229,454,160	166,105	3,572
Total, Government operated.....	19,321	\$ 2,990,109,735	258,425	8,096
Government-owned, contractor-operated:				
Civilian agencies.....	301	\$ 4,028,545,658	None	None
Department of Defense, military (mfg. only):				
Wholly-owned by Government.....	106	4,191,698,246	None	None
Partly-owned by government.....	43	653,636,930	None	None
Total, Government-owned, contractor-operated.....	450	\$ 8,673,880,834	None	None
Grand total.....	19,771	\$11,863,990,569	258,425	8,096

facilities say, "It's getting harder and harder to get a new start approved" since the Pentagon tightened its policy.

The 19,771 installations run by the government or with government facilities the Budget Bureau has listed so far dwarf the count of the Commission on the Executive Branch of the Government (Hoover Commission). The Commission, which lacked facilities and staff to make a complete inventory, reported that the federal government was operating about 3,000 business-type activities.

Actually Uncle Sam's role as a businessman is much bigger than the Budget Bureau has found to date. It's still unknown how many industrial activities the government operates or owns, how many may be competing with private business and how long the government will keep those which are.

The Administration's goal to halt this competition will take years, officials close to the program say. In fact, it may never be completed to the satisfaction of some proponents.

A phase of the program the Budget Bureau has not yet reviewed—activities of the government which provide products or services for the public, such as generation or power and making loans—abounds with cases of competition, according to backers of the program.

One obstacle to the Bureau's program is the fact that many of these activities can be eliminated only by legislation.

All the activities listed in the Budget Bureau's present inventory are not necessarily competitive with business. Some undoubtedly produce goods or services unavailable from private sources or, by their nature, are best produced by the government. The inventory also excludes activities with capital assets of less than \$5,000 and a product valued at less than \$25,000 a year.

The inventory includes:

Farms run by agencies such as the Veterans Administration for rehabilitation purposes, facilities operated by the Bureau of Mines to develop new mining methods, dredging and construction operations of the Army Corps of Engineers, manufacturing installations for federal prisons.

Navy shipyards, which account for \$1,500,000,000 of assets; manufacture of ordnance, which adds up to \$650,000,000 in assets; grain bins for the Commodity Credit Corporation, an investment of \$198,000,000; General Services Administration storage facilities, valued at \$34,000,000, for stockpiling strategic materials.

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Create greater harmony between labor and management, America's productive team.

3. LIFT LIVING STANDARDS

Increase production, develop new markets, provide more jobs, keep the economy expanding.

4. IMPROVE EDUCATION

Raise educational standards, and build a better public understanding of free enterprise.

5. BUILD BETTER CITIES

Combat urban blight and build better cities and communities for tomorrow.

6. STRENGTHEN ORGANIZED BUSINESS

Keep local, state and national organizations of businessmen strong, forward-looking and increasingly effective.

NEW ROADS: *changed business pattern ahead* continued from page 33

as those with no control. The fatality rate on the controlled highway is only about 2.8 per 100,000,000 vehicle-miles, compared with eight per 100,000,000 vehicle-miles on a road with no control. There is a comparable difference in the accident rate. The effect of the new highway system on the nation's driving safety record may permit a reduction in insurance premiums.

Controlled access does not mean that the new interstate system is designed primarily for the cross-country traveler. The fact is, according to the Bureau of Public Roads, that only two per cent of the traffic at any given spot on the system will be transcontinental. Most drivers will be making trips of 100, 50, 10 miles or less. Many of them will be taking children to school, going shopping, commuting, going to visit nearby friends or relatives. Government experts emphasize that, although entrance into and departure from the interstate highways will be carefully controlled to insure optimum safety and a smooth flow of traffic, the interchanges will nonetheless be frequent and conveniently located for local motorists.

What drawbacks does the program present so far as the motorist is concerned? There will be the short-range inconvenience of intensive highway construction. This will be less noticeable in rural areas, since most of the roads in the new system will not occupy presently traveled routes. But in cities, the construction of throughways—with all the coincident razing of buildings, relocations of homes and businesses and detours—is likely to cause some temporary inconveniences.

Then there will be the higher federal excise taxes and the chance of state and local tax increase to make up the nonfederal ten per cent of the cost.

Secretary of the Treasury Humphrey has raised the possibility of another drawback. He said that even with the increased taxes there will be a number of years when the boost in federal spending on highways outstrips the revenue from highway taxes. That means, he said, transference of money to the highway fund from the Treasury. Such transference, he continued, might well forestall the day when the government can order general tax reductions for all taxpayers.

BUSINESSMEN

Most businessmen will be affected in some way by the highway program. Some can expect to benefit from swifter and cheaper transportation of raw and finished materials.

Some will even relocate their factories or warehouses near one of the new roads.

Some firms will benefit by taking part directly in the highway construction program—either by building the roads or supplying materials or roadbuilding equipment. Some businessmen will set up new gasoline stations, restaurants, motels and other services on service and feeder roads to cater to the users of the system. Others who own these types of businesses along existing routes may be hurt either temporarily or permanently by the diversion of traffic to the new highways. Many industries—auto, truck and bus manufacturers, gasoline companies, tire makers, to name a few—are expected to feel a profitable backwash from the increased travel the interstate system will cause.

Probably the most hotly debated feature of the program so far as the business community is concerned is the bar on entry or exit other than at regular interchanges. This foreclosing of what would otherwise be attractive business opportunities, plus the expectation of damages due to relocation of routes or the conversion of existing routes to controlled access, has already caused some protests. Federal officials admit that some people will get hurt. But, they add emphatically, the damage will be much less than anticipated and will be more than outweighed in any given community or area by the spur to business the new highways will provide.

Joseph Barnett, assistant deputy commissioner of the Bureau of Public Roads, states the argument for controlled access:

"It is becoming increasingly clear," he declares, "that only with full control of access do highways retain their ability to handle traffic safely and efficiently, and that it is in the interest of business—both roadside and other types of business—to have a system on which traffic is free to move, cost of vehicle operation is reduced, time is saved and the appalling accident experience is cut more than half."

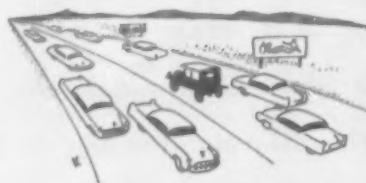
Frank Turner, assistant to the Commissioner of Public Roads, maintains that studies of past projects involving the relocation of roads and controlled access on the new roads show "almost without exception that the diversion did not hurt business and in the majority of cases helped it."

He explains that in most cases the old road, with its service establishments, becomes in effect a service road for users of the throughway. Suitable connections are provided so that the motorist who wants to

refuel, eat or spend the night can easily and quickly cut over to the service road and use the facilities there. This sort of arrangement is expected to be used frequently along the interstate system.

Despite these reassurances, many businessmen are making plans now to ease the impact of the program. For example, J. Pendleton Gaines of the Florida Motor Court Association recently suggested that access roads be placed so that present business areas in rural sections would be used in most cases to meet the needs of users of the new roads, that existing highways be used as service roads when they parallel or intersect the new highways and that directional signs and printed material be used to guide motorists to the existing off-highway facilities.

One by-product of the new interstate system is likely to be a boom in land values near the new highways. Despite controlled access, the experience of the toll throughways has been that industrial plants, resi-



dential subdivisions, shopping centers and other developments will cluster along the new roads, particularly at interchanges. Government experts figure that one third to one half of the total increase in property values as a result of the new roads would pay the cost of the interstate system.

Figures from toll road experience support the land boom expectations. Roadside land that sold for \$600 an acre before the Northern Sacramento Freeway in California was built climbed to \$10,000 an acre within a few years after the freeway came. Land along the New York Thruway near Syracuse sold for about \$700 an acre in 1951 and for \$6,000 an acre last year. It was estimated that even before the New York Thruway was finished, some \$150,000,000 in new plant investment along the right-of-way had been planned.

ROAD-BUILDING INDUSTRY

The highway program will bring boom times to road-building contractors. They expect total construction, now around \$4,600,000,000 a year, to climb to about \$5,400,000,000 in the fiscal year starting July 1, to reach \$7,000,000,000 the next year and \$8,000,000,000 a year later.

The \$8,000,000,000—or possibly a little higher—level will probably be maintained for at least two or three years, after which the program will begin to taper off. In addition to this new construction, of course, there will be a continuing yearly cost of about \$2,000,000,000 for maintenance and other expenses in connection with existing highways.

Although their business will be almost doubled over the next five years, highway contractors say there is no doubt that they will have the capacity to do the job. They say that last year they were operating at only 49 per cent of capacity.

The new program will consume astronomical amounts of materials. The American Road Builders Association figures that each \$1,000,000 increase in the construction program will require 16,000,000 barrels of cement, 510,000 tons of steel, 18,000,000 pounds of explosives, 123,000,000 gallons of petroleum products, 76,000,000 tons of aggregate and—as a finishing touch—83,000 signs. The contrast between present demands and demands at the peak of the road-building is shown by the fact that last year 58,700,000 barrels of cement and 1,900,000 tons of steel went into highway construction while at the \$8,000,000,000 peak the program will call for 113,000,000 barrels of cement and 3,650,000 tons of steel.

The demands put upon suppliers of materials will obviously be heavy, but, according to the ARBA survey, plans for expansion of production facilities, the fact that the program will be slow in getting underway and common-sense scheduling of projects to work around spotty shortages should combine to keep the shortages from becoming oppressive or forcing prices sky high.

ARBA estimates that some 330,648 pieces of equipment, ranging from small trucks to gigantic pavers and portable asphalt plants are now available for road building. It is estimated that this equipment would support \$5,800,000,000 of construction and that the industry is in a position to provide enough additional equipment to boost the program by another \$1,000,000,000 on short notice. The road builders expect that within a few years the equipment industry, thanks to a \$200,000,000 plant expansion program almost completed, will be turning out enough equipment comfortably to support a road-building program of \$10,000,000,000 to \$11,000,000,000, over the expected peak load.

TRUCKERS

Trucking is expected to grow faster as the new interstate system emerges.

There are now 7,000,000 commercial trucks on the road, and the industry expects the number at least to double by 1975.

The new highways, the trucking industry feels, will persuade more and more industries to decentralize—to expand to small towns where land and building costs are cheap, labor is available and wage levels lower.

It says business will benefit from more flexible service—quicker delivery and pick-up, loading and unloading, handling of smaller batches of goods.

Truckers will have to pay more than the private motorist toward the federal share of the highway costs, of course. Some of the tax increases apply only to trucks—the new highway use tax on vehicles of 26,000 pounds or more, for example. Also, the tax boosts on gasoline and tires hit truckers harder than motorists because of the lower mileage trucks get from each gallon of fuel or pound of rubber.

The American Trucking Association estimates that the cost of operating a light truck will climb by more than \$75 a year under the new tax schedules and the cost of operating a big five-axle job by \$565. The Bureau of Public Roads estimates the average cost increase at about \$185 annually per truck.

On the other hand, there have been estimates that the trucking industry will save as much as \$1,500,000,000 a year. Faster trips will reduce labor costs (although the truckers say not by as much as many people think), less stop-and-start driving will reduce fuel consumption and tire and brake wear. Increased safety will reduce insurance costs. This, of course, is on top of the increase in business expected to result from the new highways.

The new law does put one major restriction on the truckers. It includes size and weight ceilings designed to protect the new roads from ever heavier trucks.

Truckers aren't too upset about these restrictions, however, since they do not apply in states which already have in effect more lenient ceilings, and they are at least as liberal as the restrictions now in effect in most states.

LABOR

Federal officials estimate the highway program will, by 1961, provide more than 500,000 additional jobs in actual construction of the roads, in industries supplying materials and machinery, in service industries catering to the highway users and in road maintenance work.

The number of on-site highway

workers is expected to increase from the present 220,000 to about 350,000 by 1958.

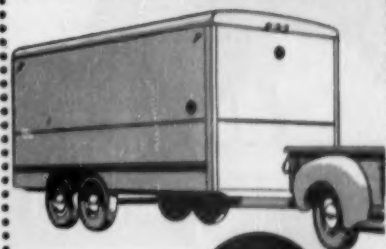
The road-building industry feels that finding men to fill these jobs will not be a problem.

The industry does expect trouble, however, in finding an adequate supply of engineers. In fact, an American Road Builders Association task force study indicates that the engineer shortage will be the most serious threat to fast expansion of the program.

Organizations interested in the highway program are pressuring state highway departments to beef up salary scales and other job benefits.

Efforts are being made to increase the number of highway engineering scholarships to entice more talented young men into that line of work. These organizations are also studying ways to increase the productivity of each engineer—standard plans for highway structures, aerial map-making and surveying, photographic reproduction of drawings, the use of high-speed computers to do complex mathematical work. The experts believe that by these and other streamlining techniques the total number of engineers re-

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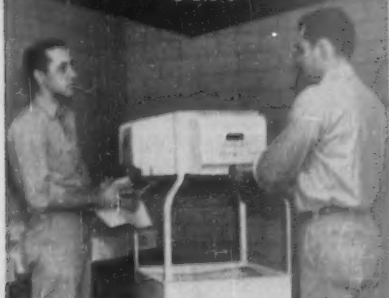
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NEW ROADS

continued

quired for each \$1,000,000,000 worth of highway construction can be cut in half.

FARMERS

About one out of every ten passenger cars and more than one out of every four trucks belong to farmers. Almost 90 per cent of all farm products now reach their markets via highways. These few statistics illustrate the importance to farmers of fast, safe roads.

Nonetheless, the farm groups were not unanimous in endorsing the interstate system. The National Grange supported the program, arguing it would "free increasing amounts of state highway revenues for roads off the interstate system." Grange National Master Herschel D. Newsom pointed out that hard-surfaced roads constitute less than a fourth of all rural roads and that 1,124,000 miles of rural roads, or some 37 per cent of the total, still have no surface at all. Calling these roads the missing links between many farms and the new superhighways, Mr. Newsom said his group would now fight for attention to these back roads. The fact that the federal government is stepping up its spending on the regular highway aid program should mean that the states can devote more attention to rural roads, he declared.

On the other hand, the American Farm Bureau Federation opposed the highway program all the way, taking the position that the state could do the same job better if the federal government would give them the exclusive right to assess gasoline taxes. The Federation took the position that the interstate system would be of little benefit to farmers compared to the benefits of spending similar amounts of money on improving farm-to-market roads.

THE STATES

The states will actually do the spending for the new highways. The federal government will put up most of the money, approve plans and inspect the results, but it will be the state highway departments that let the contracts and oversee the construction. In many cases this suddenly increased responsibility will call for a modernization and strengthening of state highway departments.

State officials will also have to raise the money for their share of the highway costs, recruit engineers and administrators, meet the pressures and protests from businessmen, land-

owners and other groups who want or don't want a road in a particular place. In some cases, state revenues can be expected to benefit from the attraction of new businesses and industries and increased tourist traffic.

A major problem for many states is that their highway laws are inadequate to cope with the size and range of problems posed by the advanced design of the new roads.

For example, a survey by the Road Builders shows that although 47 of the states have some legal authority to limit access to highways, few of them have what the experts consider adequate authority to carry out the strict access control the new highway law requires.

Acquisition of right-of-way is going to be troublesome, too. Adequate rights-of-way at a reasonable price can best be assured by purchase long in advance of construction; attempts to acquire rights-of-way just before construction are usually more costly and frequently result in delays that throw schedules out of kilter. Yet few states have programs for advance right-of-way purchase. One survey showed that only five states have revolving funds for this purpose. In these states, the highway department purchases rights-of-way it knows it will someday need with money from the revolving funds. Then when specific projects are authorized and the legislature appropriates the money, the funds spent earlier on land acquisition are paid back into the revolving fund. California officials say their revolving fund has permitted them to buy in advance for \$19,000,000 rights-of-way which would have cost about \$114,000,000 if bought just before construction.

Recognizing the shortcomings of state laws on access control and purchase of rights-of-ways, Congress has written into the new highway law methods by which the federal government can lend a hand.

CITIES

Many experts see the new highway program as a life-giving transfusion to cities. They believe that if the cities act promptly they can make the new thoroughways an important part of urban renewal programs, attacking blighted areas, traffic congestion and the general decline of downtown sections with one well financed blow.

Although situations will differ from town to town, the new thoroughways can, in some cases, help bring about slum clearance projects. They could also prove a blessing to downtown merchants. The thoroughways will often make it possible for suburbanites to come into the center

of town in only a fraction of the time now required and with none of the stop-and-go driving now associated with such a trip. If the downtown parking problem can be licked, and many cities are making progress on that, the throughways and their accompanying belt, loop and feeder roads may revitalize downtown shopping, eating, hotel and entertainment areas in such cities.

City sections of the interstate system are likely to be the most seriously harassed by land acquisition problems. Many of the urban highway sections will require extremely valuable, highly developed sites and their acquisition will be long and expensive. As a result, it probably will be well into the 1960's before many of the urban sections of the system are built. On the other hand, a few major sections of this type—expressways for New York City and St. Louis are examples—have been in the works a long time and may be among the early projects authorized under the new program.

THE NATION

To the motorist, the interstate system will be a dream come true; to the federal government it will mean the correction of an Achilles heel in our defenses. Soon after World War II, military leaders decided that the system, linking every productive corner of the country with heavy-duty highways, is as vital a part of our arsenal as are weapons and planes.

The destructive power of atomic and hydrogen bombs make top-grade roads imperative, first, to permit dispersal of industry as a defense measure, and, second, to permit the evacuation of our cities and the swift movement of heavy military equipment if war should come.

Gen. Lucius D. Clay, who was chairman of the President's Advisory Committee on Highways, told Congress while the highway program was under consideration:

"It would be the greatest mistake we ever made if the nation did not now plan to complete an interstate highway system to provide roads for survival. Without the system, evacuation of cities in the event of nuclear attack would be just about impossible. With it it would be difficult but we could do many, many times a better job of evacuation.

"We have pointed out in our report that the Defense Department has designated these roads as necessary to national defense and civil defense. Personally, I would go further than that. . . . I think we have to have the national highway system if we are to survive."

—CHARLES B. SEIB

"It doesn't affect me"

A SMART BUSINESSMAN like John McDonald saying that's why he didn't belong to the chamber of commerce stopped me. A man with a big trucking firm like his, with a lot of his clientele here in town, and he says . . . "The chamber's activities don't affect me."

HE BUILT his business from scratch, of course, and I had to remember that his long struggle for success had made him a pretty independent operator. I listened till he gave me an opening with . . . "Just what's this outfit doing to help me?"



WORKING on the traffic problem, I told him. Working for off-street parking, for better streets and for a real highway program that'll make it easier to push trucks around all day and will benefit the community, besides.

NEXT STEP was to show just how and what the chamber was doing to bring more manufacturing to town, to help local businessmen, to add impetus to community development. Then it was easy to demonstrate . . . how more industry meant more jobs and this, in turn, more people to put more money into circulation.

THE NET RESULT is a greater all around community prosperity. When John saw the light he agreed . . . "These benefits rub off on every company's business, affect every citizen's life and future. It looks like there's every reason for me to join the chamber." And he did!

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CITIZENSHIP

is bigger than

home towns



THE Bureau of the Budget has just laid a challenge before the country's citizens and statesmen. It did not do this in a disputatious fashion.

It did it by carrying out President Eisenhower's directive to conduct an orderly and systematic review of government business-type activities which might be in competition with private enterprise.

The Bureau found 19,771 such activities with total capital assets of \$11,863,990,569. They were operating in 184 business categories, including agriculture, forestry, fisheries, mining, construction, manufacturing, transportation, communication, public utilities, wholesale and retail trade and such service trades as laundries, automobile repair and radio broadcasting.

This inventory of government-in-business is the Budget Bureau's first step in carrying out the President's order.

The Bureau is—or thinks it is—to follow this with three more steps:

- ▶ An evaluation of these activities.
- ▶ Action to close or curtail activities as indicated by the evaluation.
- ▶ Action to limit starting of new activities.

At this point the nature of the Bureau's challenge to citizens and statesmen becomes apparent.

Each of these 19,771 activities was established to meet somebody's real or fancied need. Each of their 258,425 civilian workers votes and has friends and relatives who vote in some congressional district. Each community finds some prestige in the fact that it was chosen as the site for a government operation.

Thus an effort to get the government out of business, though it wins applause as a national goal, becomes something else when it reaches the home community.

There citizens and congressmen rally in defense of the jeopardized activity. "Close the others, and good riddance," they cry, "but don't lay the impious hand of efficiency on this one."

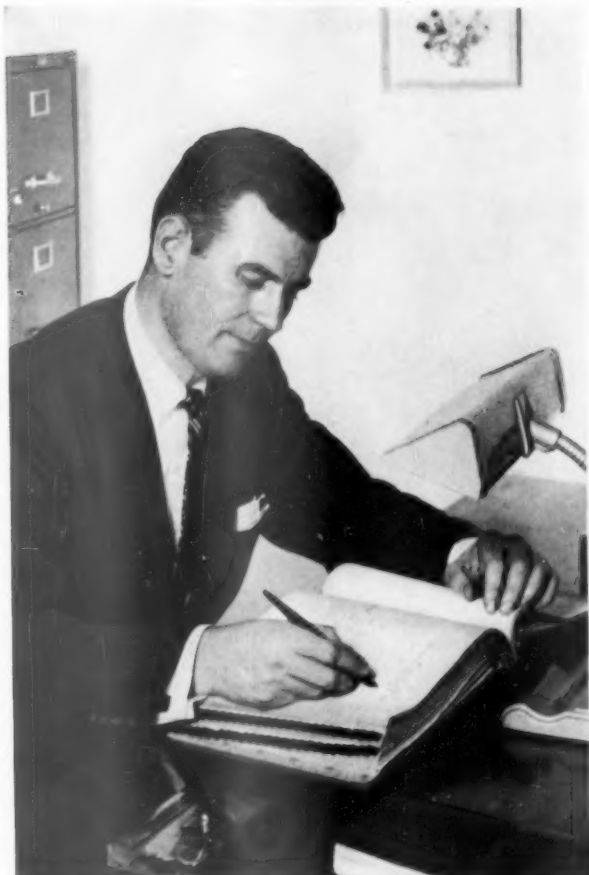
Like similar efforts that have preceded it, the Bureau's present program faces this sort of piecemeal sabotage. Recent events show that this is not a sabotage based on reason. Synthetic rubber plants increased production 50 per cent in the first year after private ownership took over from government. Even though other plants might not match this growth, the local communities would still benefit in many ways. Under private operation, plants now tax exempt would contribute to local, state and national revenues; private capital invested in these enterprises would free \$11,000,000,000 of government funds for other uses; hidden losses of government operation would no longer swell federal debt and interest payments; and profits, when profits are made, would go to tax-paying citizens.

Unfortunately such practical considerations do not necessarily answer local emotional arguments—the traditional resistance to change, the pressures of special interest groups, the feeling that one small plant in our town won't affect the national picture very much.

Only local people can answer those arguments at the spot where the answers will count. They can do it by assuring their congressman that neither local pride nor inertia will bring repercussions if he accepts the results of the Budget Bureau's objective study and supports its decision as to what the government is doing that it should not be doing.

In taking this stand the citizen will be helping his own community by supporting the economic system which has given us abundance in peacetime and might in war—and on which the future of the community as well as the nation depends.

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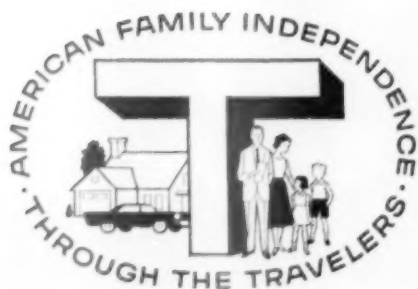


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